GeoVision inc
The Vision of Security

GV-NVR System Lite

User's Manual V1.6

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User's Manual for GV-NVR System Lite

Welcome to the *GV-NVR System Lite User's Manual.*

The Manual provides an overview of the GV-NVR System Lite and its accessories. It also includes the instructions to guide you through the installation and use of the GV-NVR System Lite:

- **Chapter 1, Introduction**
  Identifies the GV-NVR System Lite's accessories and options.

- **Chapter 2, Overview**
  Identifies the GV-NVR System Lite's features.

- **Chapter 3, Getting Started**
  Provides step-by-step instructions on setting up the GV-NVR System Lite.

- **Chapter 4, Advanced Applications**
  Introduces how to update firmware to the GV IP cameras.

- **Chapter 5, Mobile Phone Connection**
  Introduces how to connect mobile phones to the GV-NVR System Lite.

- **Chapter 6, NVR Health Analysis**
  Introduces how to collect data to obtain the service of NVR health analysis from GeoVision.

- **Chapter 7, Troubleshooting**
  Suggests courses of action if the GV-NVR System Lite doesn't seem to be working properly.

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Regulatory Notices

CE Notice

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

RoHS Compliance

The Restriction of Hazardous Substances (RoHS) Directive is to forbid the use of hazardous materials of production. To meet the RoHS Directive requirements, this product is made to be RoHS compliant.

VCCI Notice

The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) mark is administered by VCCI for information technology equipment (ITE) sold in Japan. Products displaying the VCCI Mark are perceived as high quality.

Safety Instructions

Observe these safety instructions to help ensure against injury to yourself and damage to the product.

- **Read** all safety and installation instructions before you operate the product.
- **Do not operate** the product in high humidity areas or expose it to water or moisture.
- **Do not put** the product in an unstable, a slanting or vibrated place.
- **Do not block** any ventilation opening.
- **Do not install** the product near any heat sources such as radiator, heat register or other apparatus that produce heat.
- **Operate** the product using only the type of power source indicated on the marking label.
- **Do not defeat** the safety purpose of the grounding-type plug. A grounding plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- **Do not overload** wall outlets or extension cords, as this may cause fire or electric shock.
- **Do not use** the product when abnormality occurs, such as emitting smoke from the product, smelling burning, being damaged by drop, invasion of foreign objects inside the product, etc. Be always sure to remove the AC adaptor at once and contact your dealer.
- **Do not use** accessories or attachments not recommended by the manufacturer, as they may cause hazards and void the warranty.
- **Do not attempt** to service the product yourself, as removing the casing may expose you to dangerous voltage and void the warranty.

Bundled Software

The bundled software preinstalled in the GV-NVR System Lite (GV-Desktop < **Program** button < **Multicam Installation**) is **a lite version**, specially designed for the GV-NVR System Lite to implement the GV IP cameras.

1. It includes a lite version of video analysis applications, featuring Advanced Motion Detection, Privacy Mask, Scene Change Detection and Counter only.
2. The ViewLog player only supports Single View playback. For Quad View or Multi View playback, you need to additionally install **Remote ViewLog** (GV-Desktop < **Program** button < **Multicam Installation**).

Note: For Counter application, it is recommended to set up only one camera and draw only one line on the camera image to mark the boundary of detection zone to maintain a better CPU performance.

Supported IP Camera and Dongle Options

The Supported IP Camera Combinations:

The GV-NVR Lite V1.6 supports connections to GV IP cameras and third-party IP cameras. You can adopt one of the following combinations:

- Connect up to 8 GV IP cameras (excluding GV Fisheye Cameras). See **Section A**.
- Connect up to 8 third-party cameras (of 640 x 480 resolution, H.264). See **Section C**.
- Connect up to 6 third-party cameras (of 1280 x 720 resolution, H.264). See **Section C**.
- Connect up to a total of 8 cameras from GV IP cameras (excluding GV Fisheye cameras) and third-party IP cameras (of 640x 480 resolution, H.264). See **Section A and C**.
- Connect up to a total of 4 cameras from GV IP cameras and third-party IP cameras (of 1280 x 720 resolution, H.264). See **Section A and C**.
- Connect 1 GV Fisheye camera and up to 3 other GV IP cameras. See **Section A and B**.
- Connect one GV Fisheye camera and up to 3 third-party IP cameras (of 640 x 480 resolution, H.264). See **Section B and C**.
- Connect one GV Fisheye camera with up to 3 third-party IP cameras (of 1280 x 720 resolution, H.264). See **Section B and C**.

The number of supported channels is based on the following resolution and codec type:

Section A		Dual Stream Resolution		Max. Frame Rate
		Stream 1 (H.264)	Stream 2 (MPEG4)	
GV IP Camera (excluding GV Fisheye	GV-PTZ010D-N / GV-SD010 / GV-SD010S NTSC	704 x 480	352 x 240	30 fps
	GV-PTZ010D-P / GV-SD010 / GV-SD010S PAL	704 x 576	352 x 288	25 fps
	GV-BX140DW / GV-MDR140W / GV-MFD140W	1280 x 720	448 x 252	15 fps
	GV-BL110D / GV-BL120D / GV-BL130D / GV-BX110D / GV-BX120D / GV-BX130D / GV-CB120 / GV-FD120D / GV-MDR120 / GV-MFD110D / GV-MFD120 / GV-MFD130 / GV-PT110D / GV-VD120D	1280 x 1024	320 x 256	15 fps

	GV-BL220D / GV-BX220D / GV-CB220 / GV-FD220D / GV-MDR220 / GV-MFD220 / GV-SD220 / GV-VD220D	1920 x 1080	448 x 252	10 fps
	GV-BL320D / GV-BX320D / GV-FD320D / GV-MDR320 / GV-MFD320 / GV-VD320D	2048 x 1536	320 x 240	6 fps
	GV-CR420	2048 x 1944	640 x 480	2 fps
	GV-BX520D / GV-MDR520 / GV-MFD520	2560 x 1920	320 x 240	2 fps
Section B		**Single Stream Resolution (H.264)**		**Max. Frame Rate**
GV Fisheye	GV-FE110 / 111	1280 x 1024 (4:3)		5 fps
	GV-FE420 / 421	2048 x 1944 (4:3)		2 fps
	GV-FE520 / 521 / GV-FER521	2560 x 1920 (4:3)		2 fps
Section C		**Single Stream Resolution (H.264)**		**Max. Frame Rate**
Third-Party Camera		640 x 480		30 fps
		1280 x 720		15 fps

Note:

1. For GV IP cameras (excluding GV Fisheye), stream 1 is used for recording and single view, and stream 2 for live viewing in multi divisions.
2. The default resolution for stream 1 is set at its maximum. Several resolution, aspect ratio and codec options are available for each IP camera, except GV-Fisheye cameras.
3. When connecting GV-FE420 / GV-FE421 / GV-FE520 / GV-FE521 / GV-FER521, it is required to set the screen resolution to 1280 x 1024 or lower to get better CPU performance.
4. For third-party cameras, be sure the resolution and codec are configured as specified above to achieve the best performance and maximum frame rate. To find the supported third-party cameras, go to http://www.geovision.com.tw/english/4_21.asp.

GV-NVR System Lite Dongle

A dongle is required when connecting to third-party IP cameras.

Dongle Options: 1, 2, 4, 6 or 8 IP channels.

Chapter 1 Introduction

The GV-NVR System Lite is a light-weight and an ultra-slim NVR system, which you can record video files directly to the internal hard drive. The GV-NVR Lite supports up to 8 GV IP cameras and/or third-party IP cameras for networking surveillance, with the plug-and-play function for GV IP cameras to connect to the unit automatically. The GV-NVR System Lite is an ideal NVR system for small business or retail stores.

Its six USB 2.0 ports enable to connect with multiple peripheral devices, such as USB HDD, USB DVD player and etc. Its Gigabit Ethernet function enables high-speed Internet access for seamless Web browsing. Moreover, our VESA mounting solution allows you to mount the ultra-slim unit on the back of a computer monitor.

1.1 Main Features

- Compact and slim
- Up to 8 channels
- Automatic connection to GV IP cameras
- Support for 3rd party IP cameras of 640 480 or 1280 x 720 resolution with H.264
- All-in-one solution (Live View, Playback, Recording, Backup, CMS)
- H.264 / MJPEG / MPEG4 supported
- Dual video streams
- Video analysis (Advanced Motion Detection, Privacy Mask, Scene Change Detection and Counter)
- Standing mount and VESA mount options
- Pre-installation recovery from the hidden partition
- Direct recording to the internal hard drive
- Low power consumption
- Smart phones access supported
- Multiple (28) languages supported

1.2 Packing List

The GV-NVR System Lite package includes the following items:

Important: Please keep the original carton and all packing materials for future shipping need.

- GV-NVR System Lite x 1
- AC Power Cord x 1
- Power Adapter x 1
- Standing Mount Kit (1 Base Stand and 1 Base Stand Screw included) x 1
- VESA Monitor Mount Kit (1 Stand Screw and 4 Fix Screws included) x 1
- GV-NVR System Lite Quick Start Guide x 1
- GV-NVR Lite Dongle for third-party IP camera (optional)

If any of the items are missing or damaged, contact your dealer to arrange a replacement.

1.3 Options

Optional devices can expand your GV-NVR System Lite's capabilities and versatility. Contact your dealer for more information.

GV-NVR Lite Dongle	The dongle allows you to connect third-party IP cameras to the GV-NVR System Lite. It has the options of 1, 2, 4, 6 and 8 channels.
GV-Data Capture V3 Box	GV-Data Capture V3 Box can integrate the GV-NVR System Lite to an electronic POS system, while GV-Data Capture V3E Box can establish such integration through LAN or Internet.
GV-Hub V2	An easy way for serial port extension. This hub can add 4 RS-232/RS-485 serial ports through the GV-NVR System Lite's USB port.
GV-COM V2	This unit can add 1 RS-232/RS-485 serial port through the GV-NVR System Lite's USB port.
GV-IO Box (4 Ports)	GV-IO Box 4 provides 4 inputs and 4 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.
GV-IO Box (8 Ports)	GV-IO Box 8 provides 8 inputs and 8 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.
GV-IO Box (16 Ports)	GV-IO Box 16 provides 16 inputs and 16 relay outputs, and supports both DC and AC output voltages. A USB port is also provided for PC connection.
RAM	Multiple options for the amount of RAM are available to meet different needs.

Chapter 2 Overview

2.1 Front and Left-Side View

Figure 2-1

No.	Name	Description
1	DVI Port	Connects a monitor.
2	USB 2.0 Port	Connects USB devices.
3	Giga LAN Port	Connects the switch or hub.
4	Power Port	Connects to the power outlet.
5	AUX Port	Connects the speaker amplifier.
6	Base Stand Screw	Fastens the Base Stand to the GV-NVR System Lite.
7	Base Stand	Supports the GV-NVR System Lite to stand.
8	Power Button	Turns on the power of GV-NVR System Lite.

2.2 Right-Side View

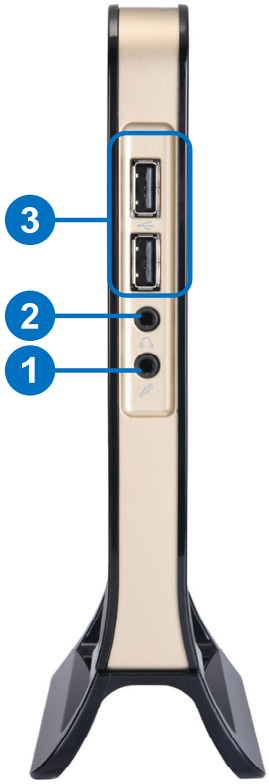

Figure 2-2

No.	Name	Description
1	Audio Input	Connects a microphone.
2	Audio Output	Connects speakers.
3	USB 2.0 Port	Connects USB devices.

Chapter 3 Getting Started

There are two methods to mount the GV-NVR System Lite. One is to use the base stand to support the unit to stand. The other is to use the VESA monitor mount to mount the unit on the back of the computer monitor.

3.1 Installing Base Stand

Figure 3-1

1. Attach the base stand to the GV-NVR System Lite.
2. Tighten the base stand screw.

3.2 Installing Computer Mount

1. Using the 4 fix screws, tighten the VESA monitor mount on the back of the computer monitor.

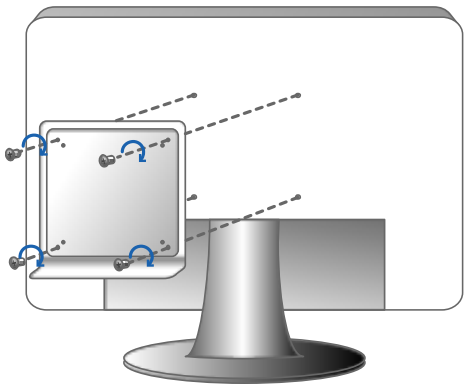

Figure 3-2

2. Attach the GV-NVR System Lite to the VESA monitor mount and tighten the stand screw.

Figure 3-3

Note: For the mounting method of computer monitor, make sure your monitor is VESA compliant. The supplied VESA monitor mount features the two mounting-hole patterns of 3" x 3" and 4" x 4".

3.3 Basic Installation

This section describes basic installation required to program and operate the GV-NVR System Lite.

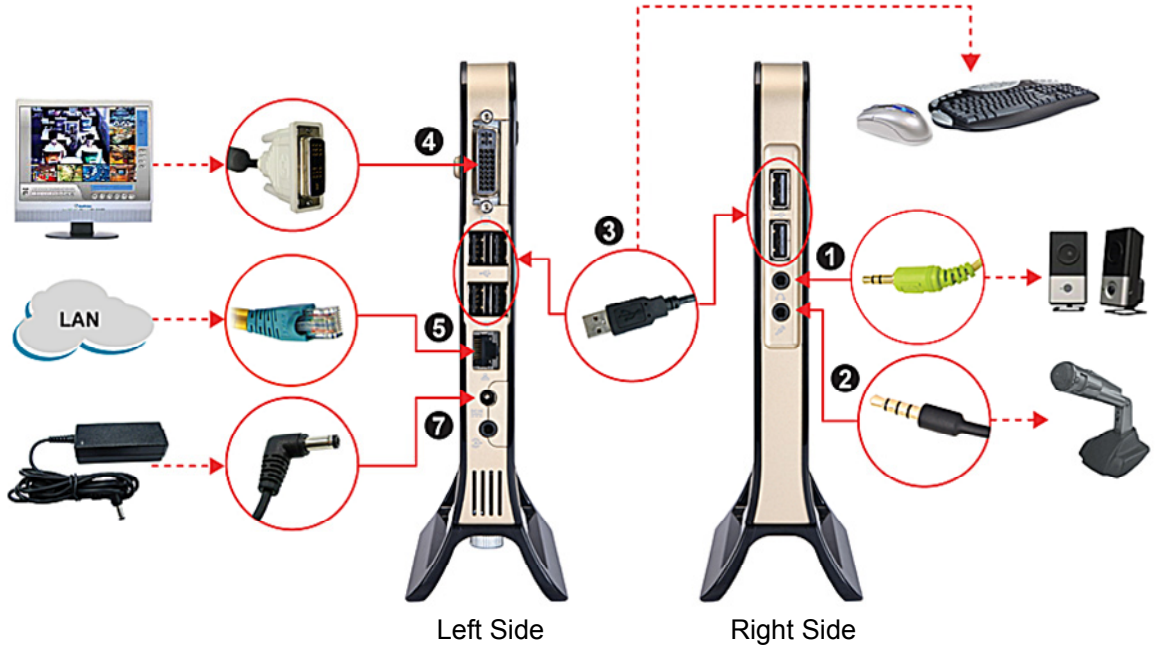

Figure 3-4

1. Connect the speakers to the GV-NVR System Lite.
2. Connect the microphone to the GV-NVR System Lite.
3. Using the USB cables, connect a keyboard and a mouse to the GV-NVR System Lite.
4. Using the DVI cable, connect the computer monitor to the GV-NVR System Lite.
5. Using the RJ-45 cable, connect a switch or a hub to the GV-NVR System Lite.
6. Connect **GV IP cameras** to the same LAN with the GV-NVR System Lite. Then power on the GV IP cameras.
7. Using the supplied power adapter, connect the GV-NVR System Lite to the power outlet.

After the power is turned on, the GV-NVR System Lite will search for GV IP cameras with the default IP address, ID and password. You can then choose to automatically or manually set up the channels. If you select automatic setup, the GV IP cameras will be displayed on the main screen without any further configuration.

IMPORTANT: Before you power on the GV-NVR System Lite, make sure all the devices (GV IP cameras and GV-NVR System Lite) are connected to the same LAN for automatic connection, and the cameras are powered on.

Note: The monitor you use must be capable of having a screen resolution of 1280 x 1024 and display color of 32 bits.

3.4 Setting Up IP Cameras

After you have installed the necessary cables and IP cameras, you are ready to display the channels on GV-NVR System Lite.

Setting Up GV IP Cameras

1. After the GV IP cameras are connected, power on the GV-NVR System Lite. When GV IP cameras with the default IP address, ID and password are detected, this message appears.

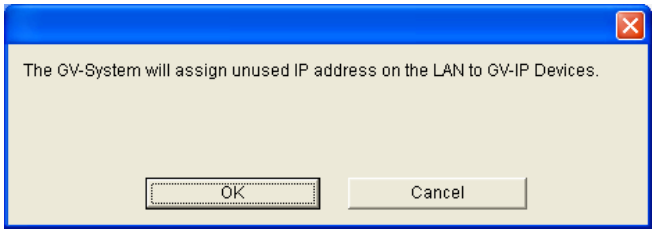

Figure 3-5

For automatic IP assignment

2. To automatically assign IP addresses and display the channels on the main screen, click **OK**. The GV-NVR System Lite will assign unused IP addresses to each of the GV IP camera in the form of 192.168.X.X. The channel will then be displayed on the main screen.

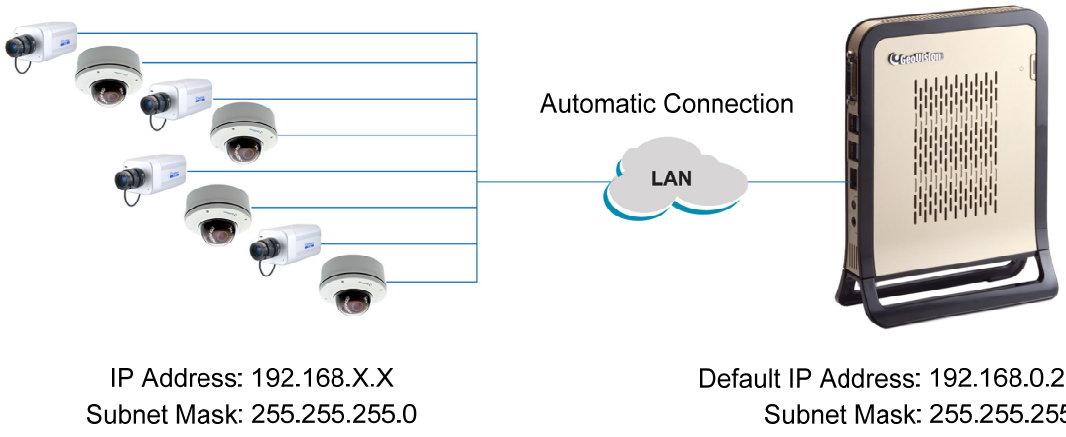

Figure 3-6

Note:

1. This automatic setup is only applicable for GV IP cameras with default IP address (192.168.0.10), and ID (admin) and password (admin).
2. The randomly assigned IP addresses will be adopted by the GV IP cameras. However, you can manually change the IP address of a GV IP camera (see step 3 and 4 below).

For manual IP assignment

3. To manually assign an IP address and set up the GV IP camera, click **Cancel.** The IP Device Setup window appears.

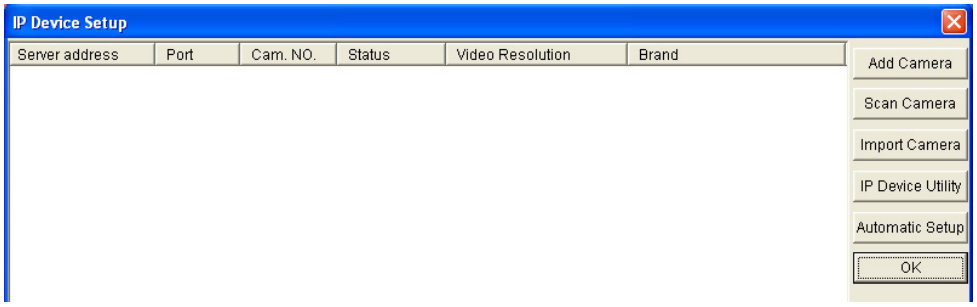

Figure 3-7

4. Click the **IP Device Utility** button and click the **General Settings** tab. The GV IP Device Utility window appears.

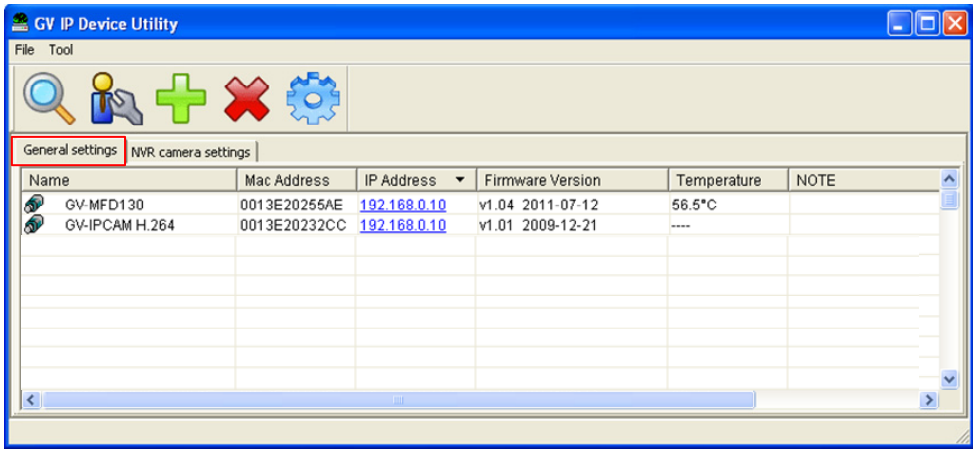

Figure 3-8

5. To modify the IP address, double-click a GV IP camera. This window appears.

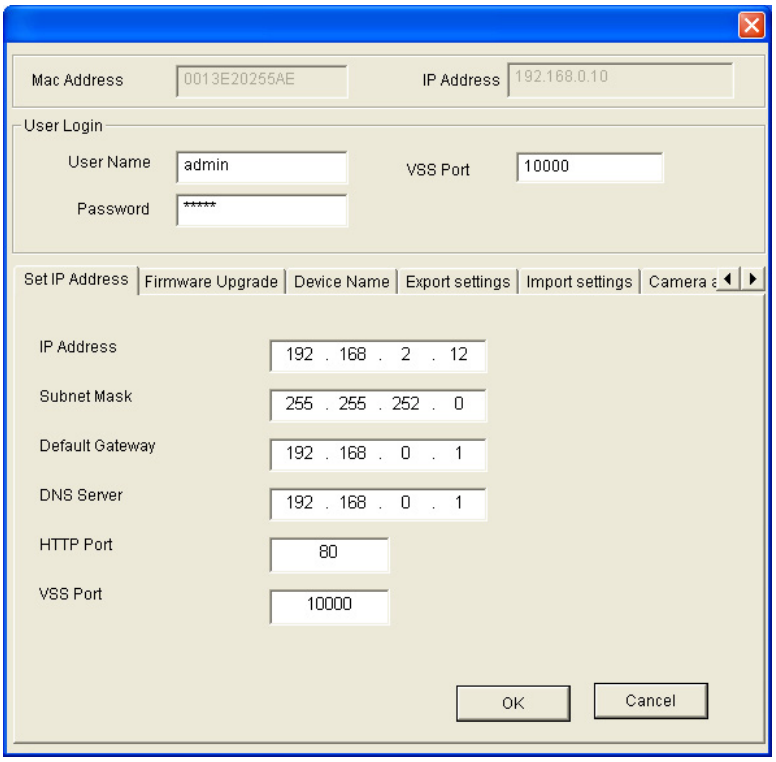

Figure 3-9

6. Type the default user name (admin), default password (admin) and the new IP information.
7. Click **OK**. The new IP address will be updated to the camera.
8. To modify the IP addresses of other GV IP cameras, repeat steps 5 to 7.
9. On the GV IP Device Utility window (Figure 3-8), click the **NVR camera settings** tab. This dialog box appears.

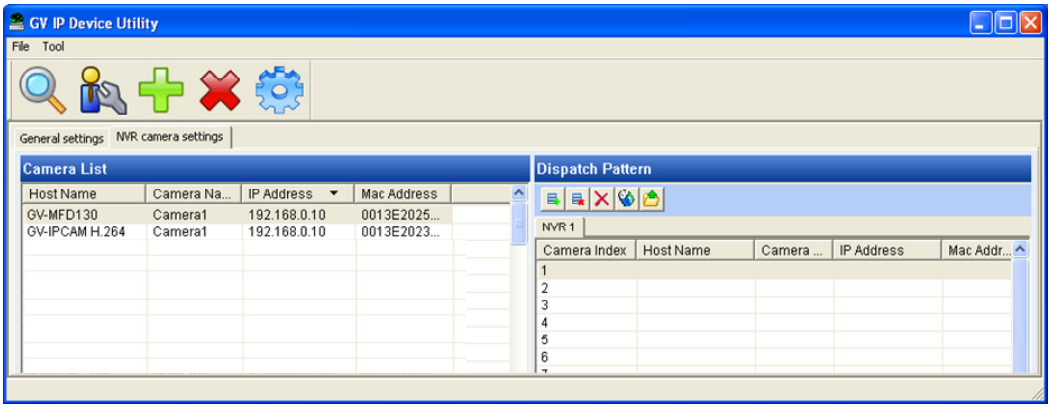

Figure 3-10

10. Click and drag the GV IP cameras from the **Camera List** to the **Dispatch Pattern** column. The camera index represents the display channel number.
11. Click the **Export** button to export the list of GV IP cameras.

12. On the GV Device Setup window, click the **Import Camera** button. A confirmation dialog box appears.

IPCamUI
Do you want to import the camera settings generated by IP Device Utility? The current camera settings will be replaced.
Yes
No

Figure 3-11

13. Click **Yes**. The GV IP cameras will be connected to the GV-NVR System Lite shortly.

Note: Alternatively, you can access the GV IP Device Utility as follows: GV-Desktop < **Program** button < **GV IP Device Utility**.

Setting Up Third-Party IP Cameras

You can set up IP cameras using the **Scan Camera** function or the **Add Camera** function.

Using the Scan Camera function

1. After the IP cameras are installed, power on the GV-NVR System Lite. On the main screen, click the **Configure** button, select **System Configure**, and click **IP Camera Install**. This dialog box appears.

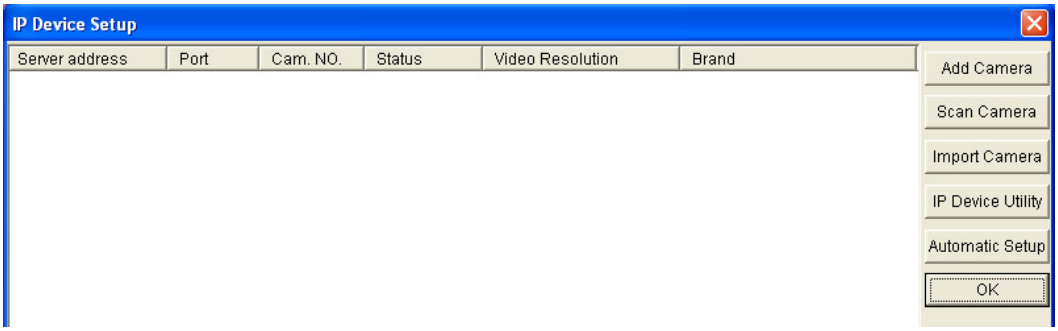

Figure 3-12

2. Click the **Scan Camera** button. This dialog box appears.

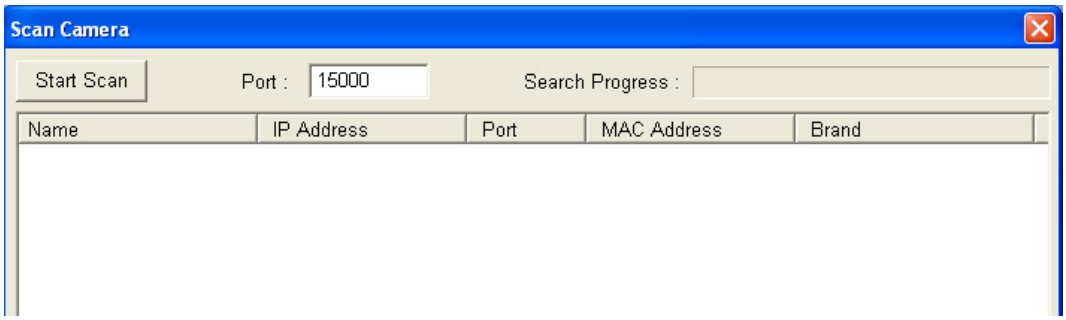

Figure 3-13

3. Click the **Start Scan** button. The IP devices under the same LAN with the GV-NVR System Lite will be searched and listed.

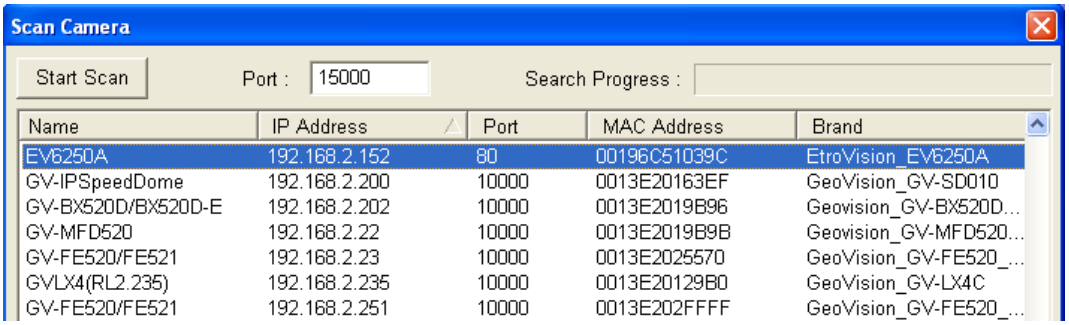

Figure 3-14

4. Double-click the IP camera. This dialog box appears.

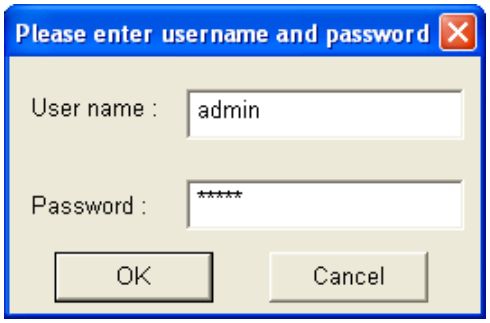

Figure 3-15

5. Type the ID and password of the IP camera and Click **OK**. Click **Query** to detect the IP camera again.

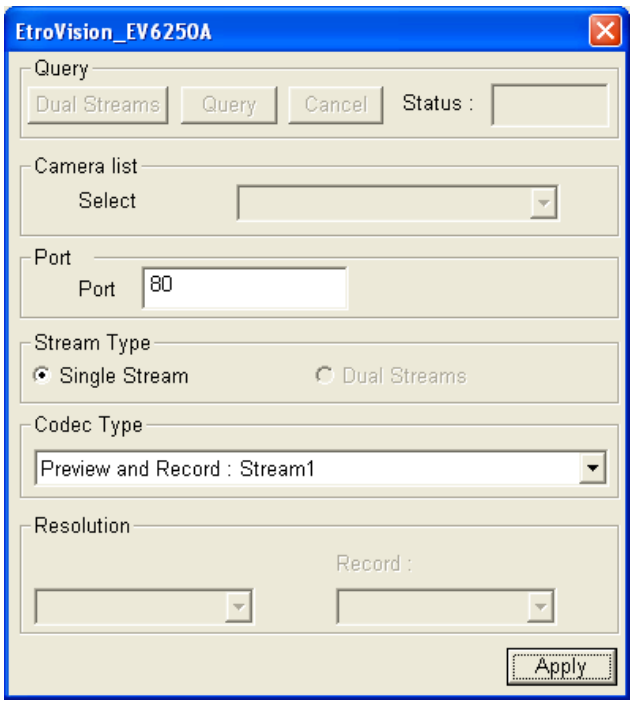

Figure 3-16

6. For third-party IP cameras, the settings accessible on this interface may vary depending on the camera brand.
   - **Port:** Video streaming port number.
   - **Stream Type:** The GV-NVR System Lite only supports a single stream when connecting to a third-party IP camera.
   - **Codec Type:** It is highly recommended to choose H.264 codec type for best performance.
7. Click **Apply**. The IP camera will be added to the IP Device Setup window (Figure 3-12).
8. Click the listed camera, and select **Display position** to map the IP camera to a channel on the GV-NVR System Lite.

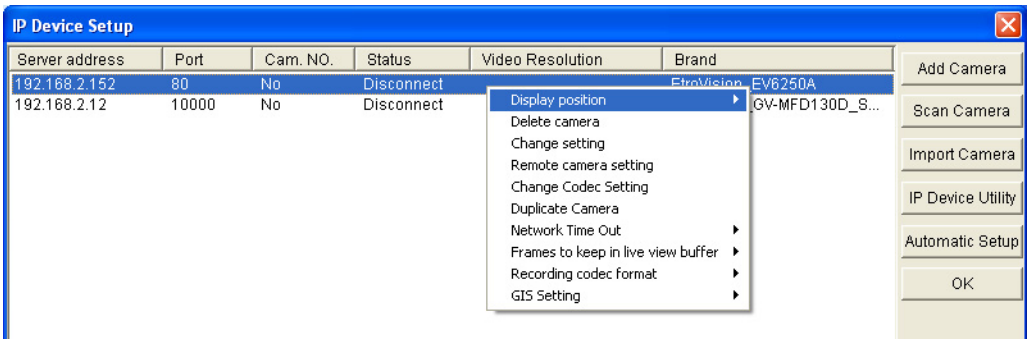

Figure 3-17

9. The Status column now should display “Connected”. Click **OK**. The channel should be displayed on the main screen.

Using the Add Camera function

1. After the IP cameras are installed, power on the GV-NVR System Lite. On the main screen, click the **Configure** button, select **System Configure**, and click **IP Camera Install**. This dialog box appears.

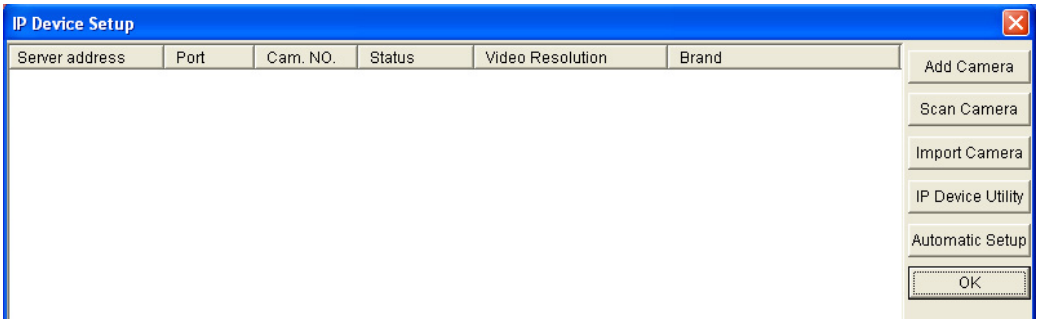

Figure 3-18

2. On the IP Device Setup window, click **Add Camera**. This dialog box appears.

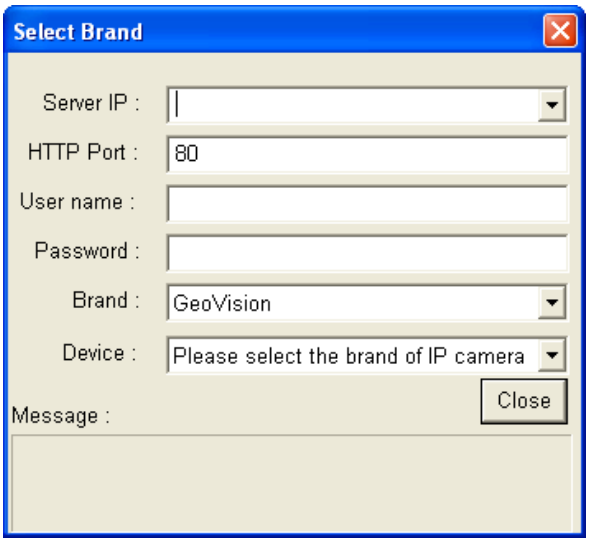

Figure 3-19

3. Type the IP address, Username and Password of the camera. Select the camera brand and device from the drop-down lists.
4. The GV-NVR System will automatically query for the IP camera, and the status will be indicated as “Standby”. If not, modify the HTTP port and streaming port (Figure 3-19) to match those of the IP camera, and click the **Query** button.
5. Follow steps 6 to 9 in the *Using the Scan Camera Function* section to add the IP camera.

3.5 Changing IP Address of GV-NVR System Lite

The GV-NVR System Lite has a default IP address of 192.168.0.200 for connecting with GV IP cameras automatically. You can also change the IP address of GV-NVR System Lite by following the steps below.

Note:

1. If you want to install more than one unit of GV-NVR System Lite under the same LAN, you need to change the IP addresses of the first GV-NVR System Lite and its connected GV IP cameras before installing the second GV-NVR System Lite to avoid IP address conflict.
2. After you change the IP address of GV-NVR System Lite, you should also change the IP addresses of GV IP cameras to the same network; otherwise, the GV-NVR System Lite will not detect the cameras for automatic connection.

1. On the GV-Desktop, click the **Programs** button, and select **Control Panel**.

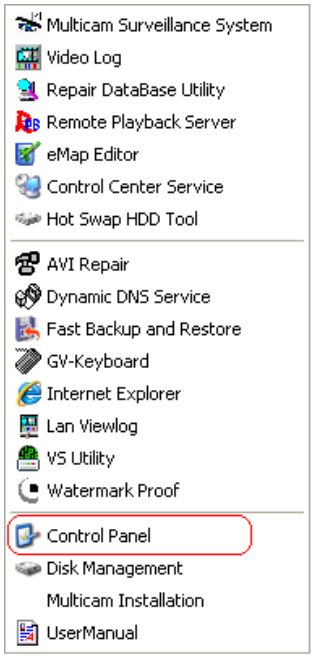

Figure 3-20

2. Type the ID and password. The default ID and password are “**0000**”. The Control Panel window appears.

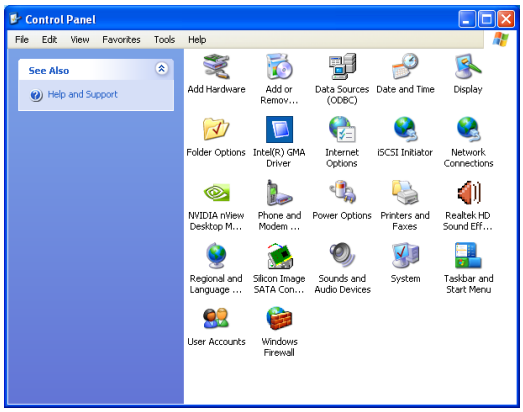

Figure 3-21

3. Double-click **Network Connections**, right-click **Local Area Connection**, and select **Properties**.

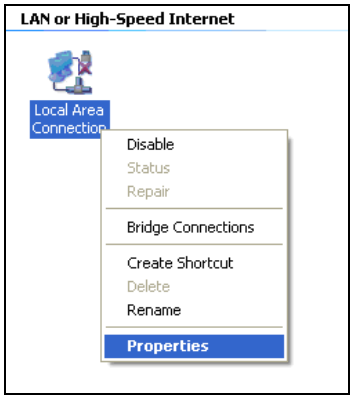

Figure 3-22

4. In the Local Area Connection Properties dialog box, select **Internet Protocol (TCP/IP)** and click **Properties**.

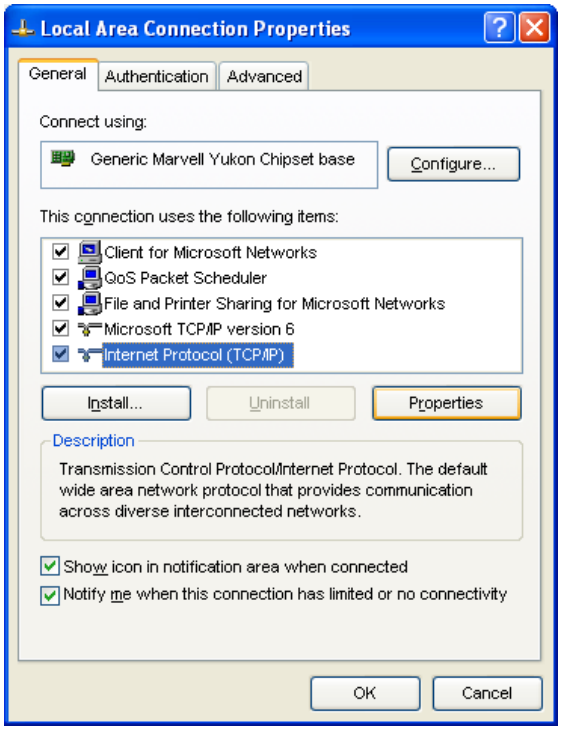

Figure 3-23

5. Select **Use the following IP address**, type the new IP information, and click OK to finish the setting.

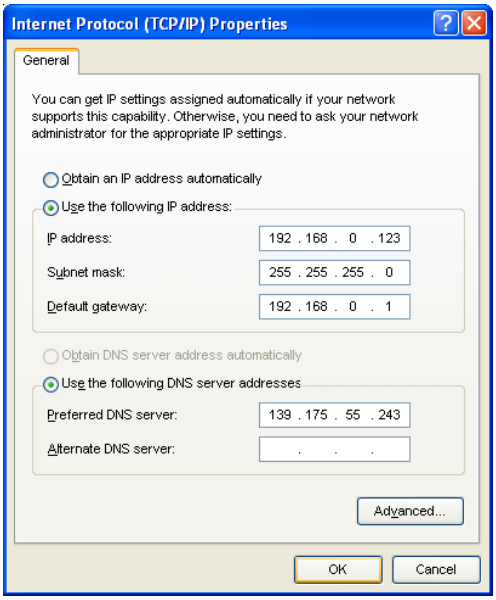
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 123
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 139 . 175 . 55 . 243
Alternate DNS server:
Advanced...
OK
Cancel

Figure 3-24

3.6 Formatting the External Hard Drive

The GV-NVR System Lite records audio and video to the internal hard drive. You can also use an external hard drive to expand recording space. You must format the hard drive before you can use it.

1. On the GV-Desktop, click the **Programs** button, and select **Disk Management**.

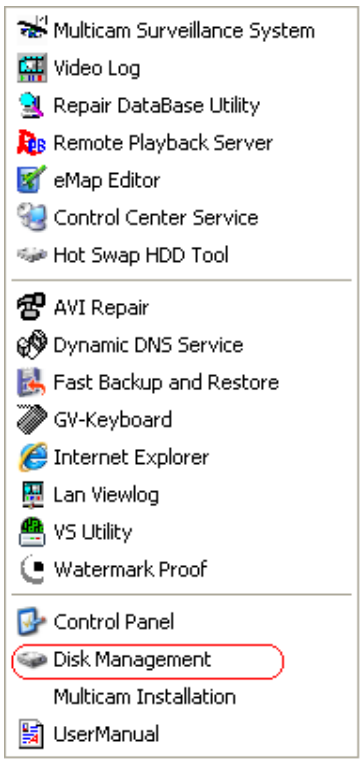

Figure 3-25

2. Type the ID and password in the dialog box. The default ID and password are "**0000**".

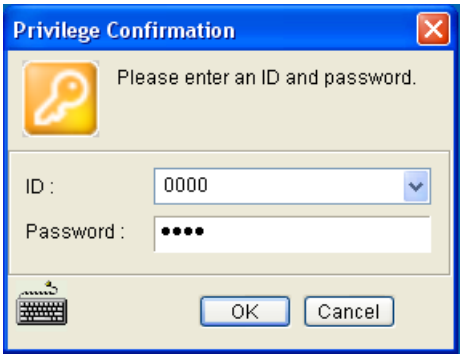

Figure 3-26

3. The Initialize and Convert Disk Wizard appears. Click **Next** to continue.

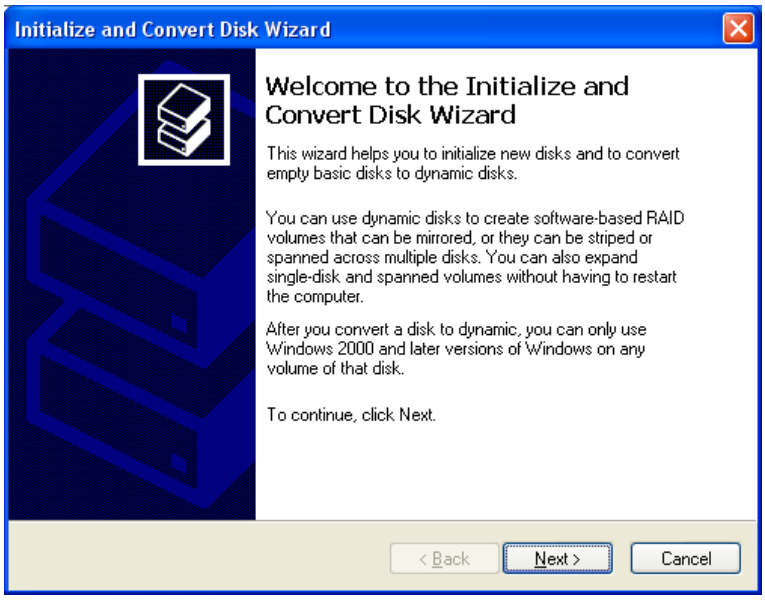
Initialize and Convert Disk Wizard
Welcome to the Initialize and Convert Disk Wizard
This wizard helps you to initialize new disks and to convert empty basic disks to dynamic disks.
You can use dynamic disks to create software-based RAID volumes that can be mirrored, or they can be striped or spanned across multiple disks. You can also expand single-disk and spanned volumes without having to restart the computer.
After you convert a disk to dynamic, you can only use Windows 2000 and later versions of Windows on any volume of that disk.
To continue, click Next.
< Back
Next >
Cancel

Figure 3-27

Note: If the Wizard does not appear, you need to initialize the drives one by one. To manually initialize a drive, right-click on the name of the drive and select **Initialize Disk**.

---

4. The screen shows the drives you selected to initialize. Make sure all drives are checked, and click **Next** to continue.

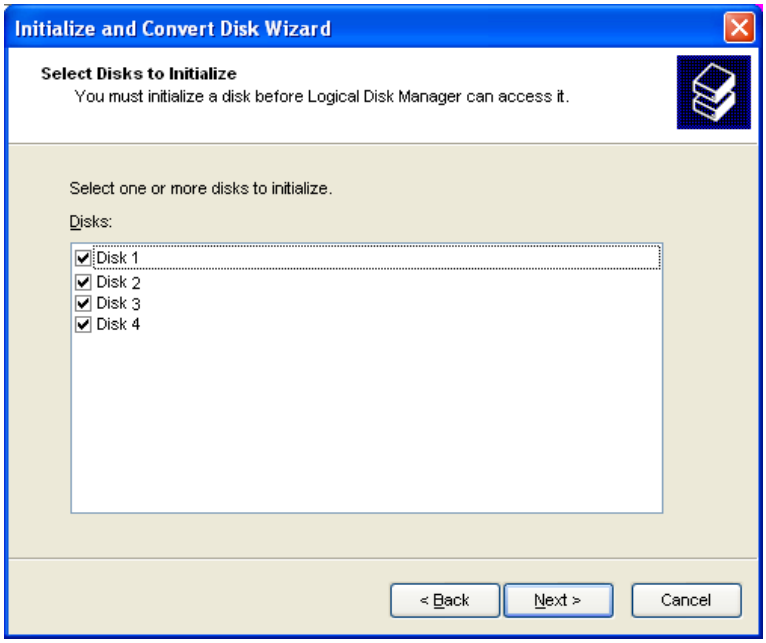

Figure 3-28

5. The screen gives you the option to convert the drives from basic to dynamic storage. Leave all drives unchecked, and click **Next** to continue.

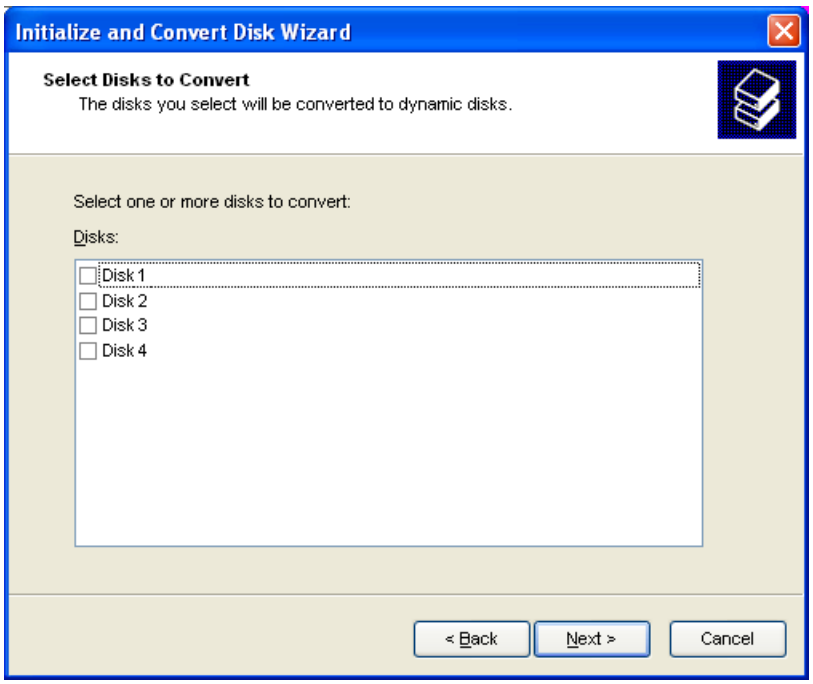

Figure 3-29

6. When the initialization is complete, click **Finish** to close the wizard.

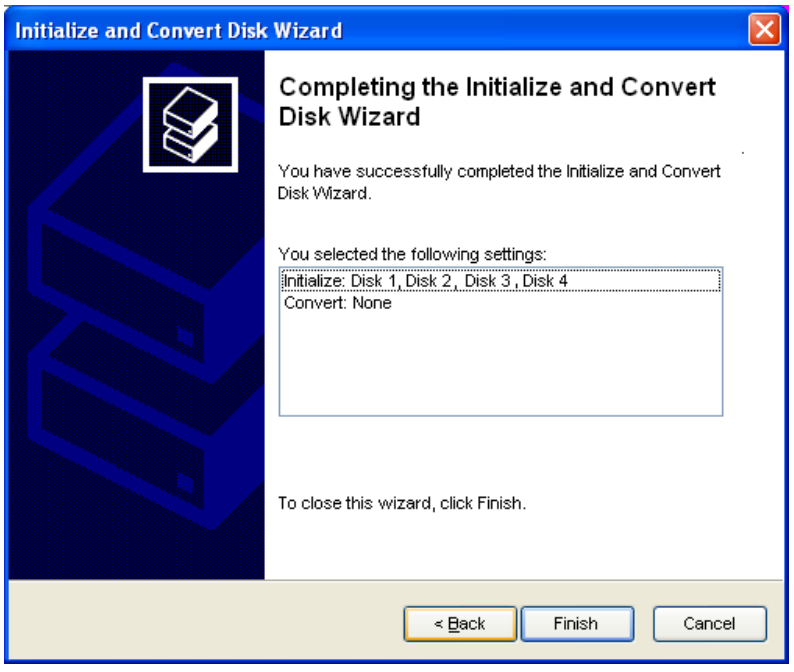
Initialize and Convert Disk Wizard
Completing the Initialize and Convert Disk Wizard
You have successfully completed the Initialize and Convert Disk Wizard.
You selected the following settings:
Initialize: Disk 1, Disk 2, Disk 3, Disk 4
Convert: None
To close this wizard, click Finish.
< Back
Finish
Cancel

Figure 3-30

7. Right-click in the unallocated space of a new drive, and select **New Partition**.

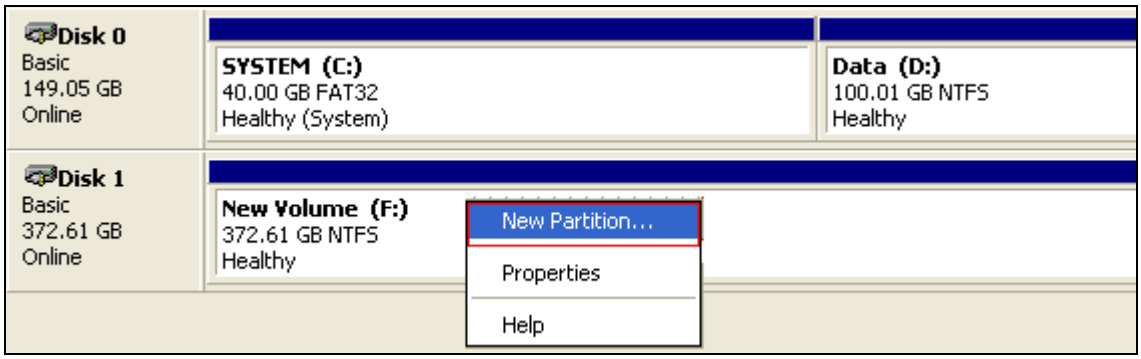

Figure 3-31

8. The New Partition Wizard appears. Click **Next** to continue.

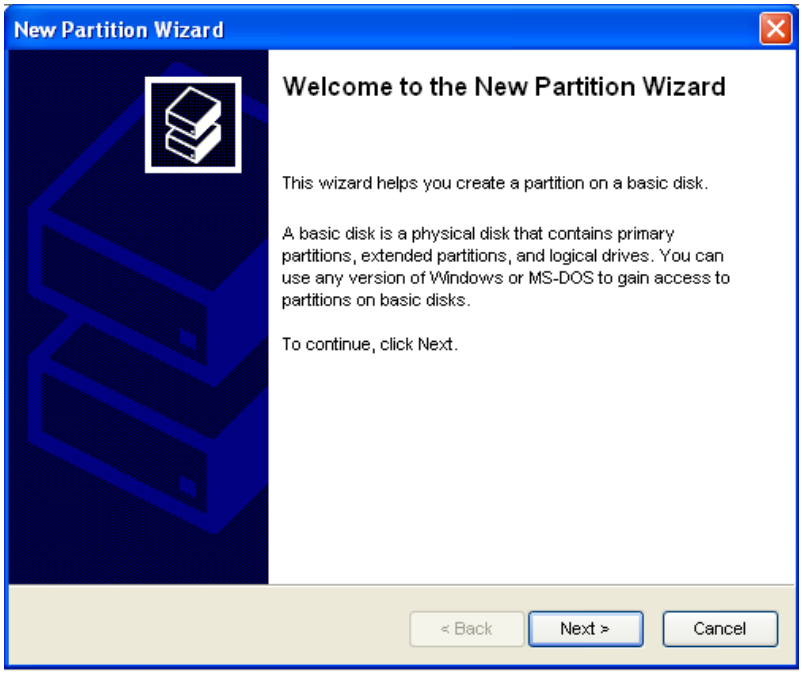
New Partition Wizard
Welcome to the New Partition Wizard
This wizard helps you create a partition on a basic disk.
A basic disk is a physical disk that contains primary partitions, extended partitions, and logical drives. You can use any version of Windows or MS-DOS to gain access to partitions on basic disks.
To continue, click Next.
< Back
Next >
Cancel

Figure 3-32

9. Select **Primary partition**, and click **Next** to continue.

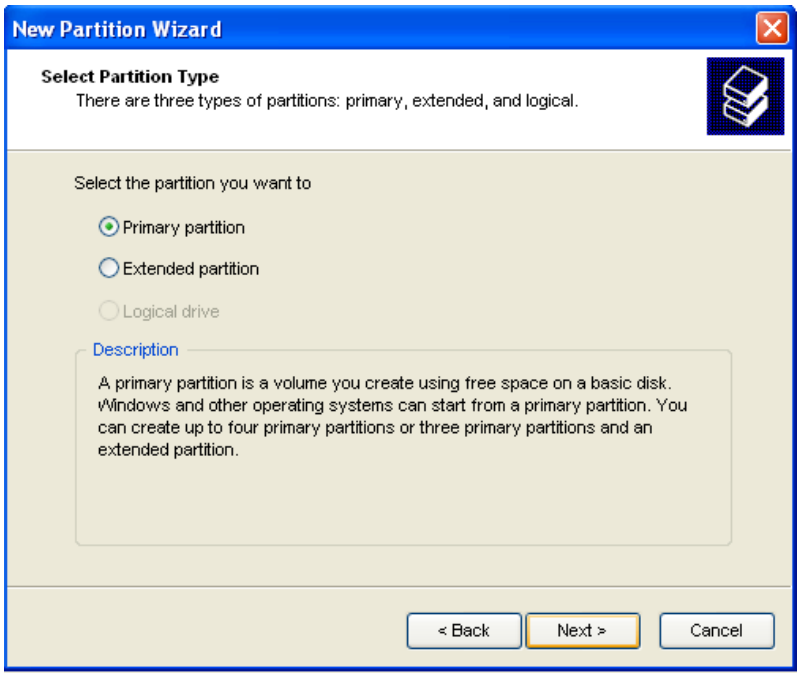
New Partition Wizard
Select Partition Type
There are three types of partitions: primary, extended, and logical.
Select the partition you want to
Primary partition
Extended partition
Logical drive
Description
A primary partition is a volume you create using free space on a basic disk. Windows and other operating systems can start from a primary partition. You can create up to four primary partitions or three primary partitions and an extended partition.
< Back
Next >
Cancel

Figure 3-33

10. The default partition size is the same as the maximum disk space. Make changes if necessary. Click **Next** to continue.

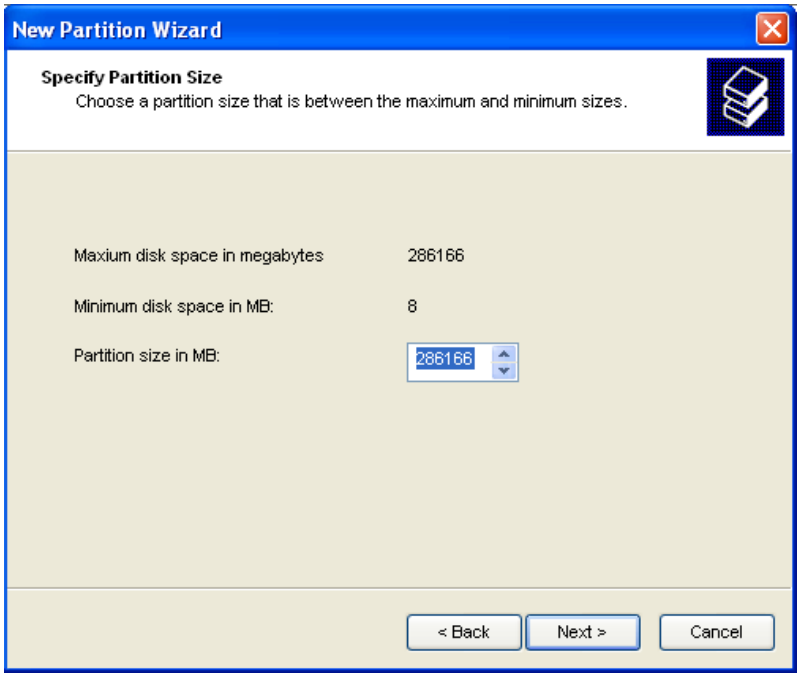

Figure 3-34

11. Assign a drive path that is not in use by other devices, and click **Next** to continue.

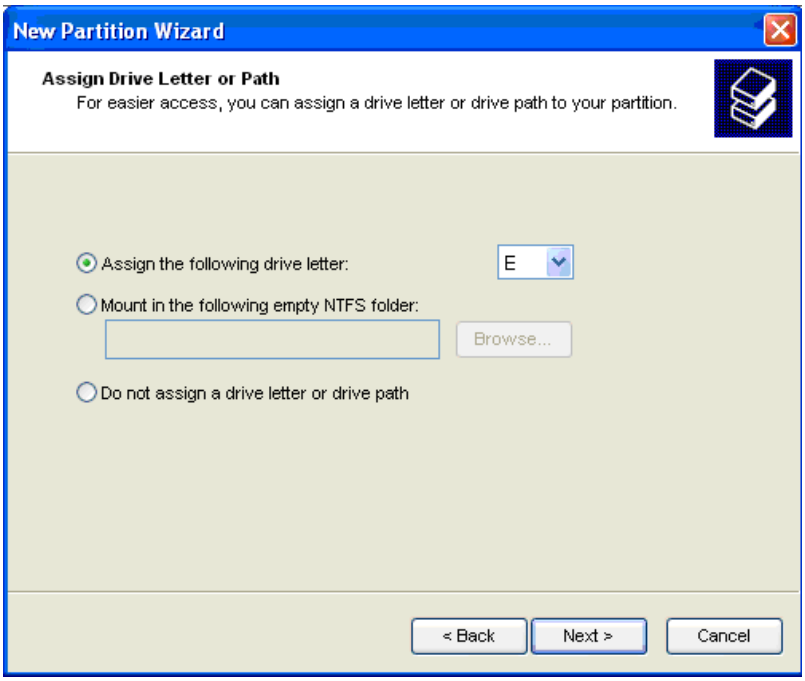
New Partition Wizard
Assign Drive Letter or Path
For easier access, you can assign a drive letter or drive path to your partition.
Assign the following drive letter:
E
Mount in the following empty NTFS folder:
Browse...
Do not assign a drive letter or drive path
< Back
Next >
Cancel

Figure 3-35

Note: The default drive path starts from **E:**.

---

12. Type a name in the **Volume label** box, ex. HDD1, and click **Next** to continue.

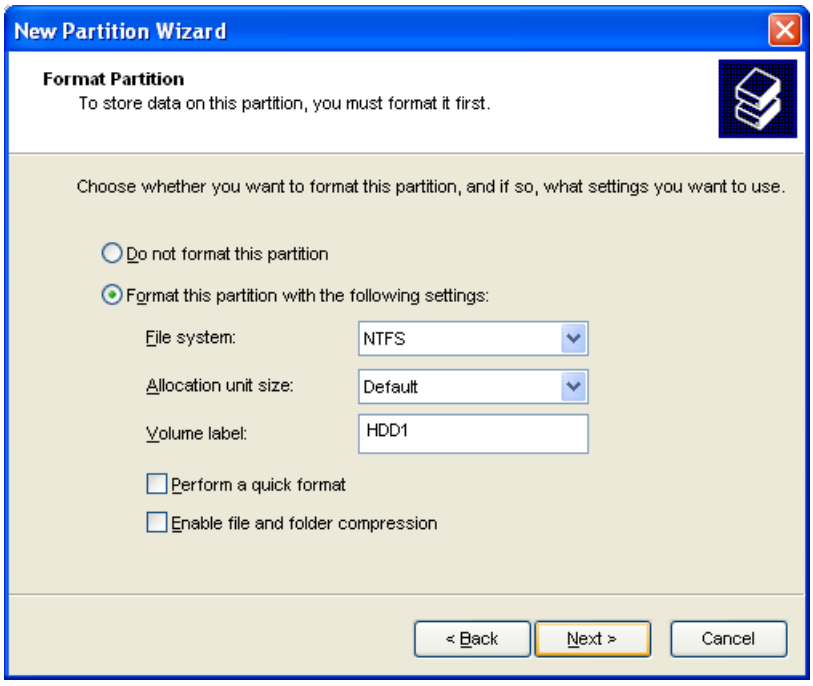
New Partition Wizard
Format Partition
To store data on this partition, you must format it first.
Choose whether you want to format this partition, and if so, what settings you want to use.
Do not format this partition
Format this partition with the following settings:
File system:
NTFS
Allocation unit size:
Default
Volume label:
HDD1
Perform a quick format
Enable file and folder compression
< Back
Next >
Cancel

Figure 3-36

13. When the formatting is complete, click **Finish** to close the wizard.

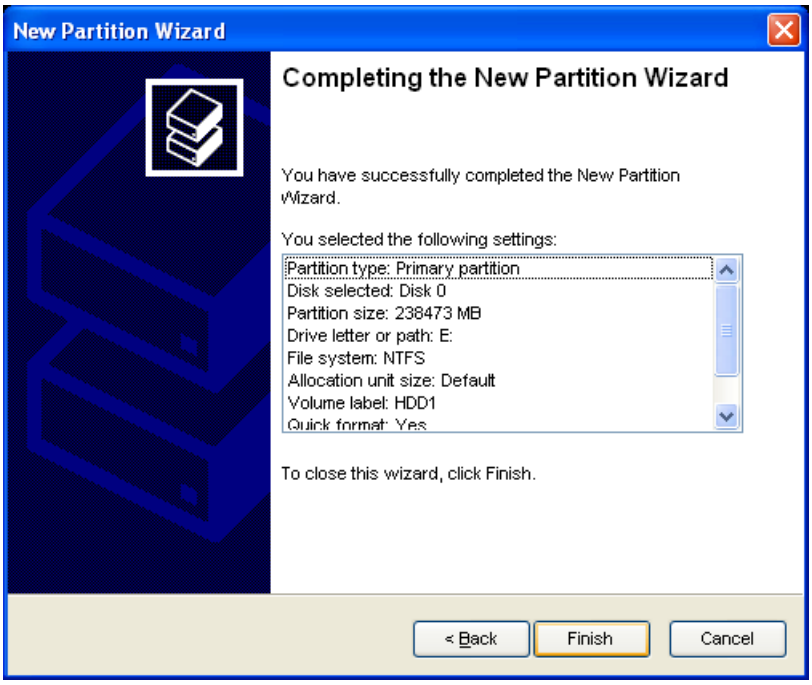

Figure 3-37

14. When the drive is successfully initialized, partitioned, and formatted, its status description should display "*Healthy*."

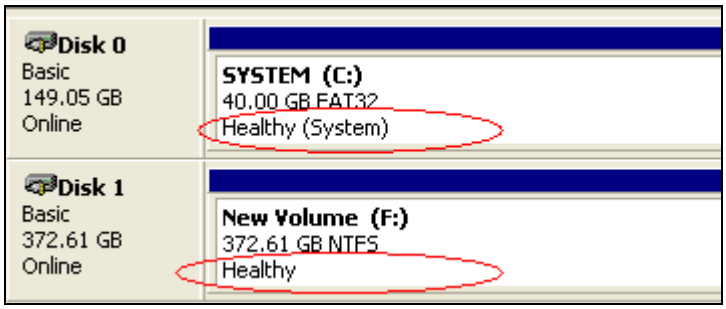

Figure 3-38

3.7 Adding the External Hard Drive to the Recording Path

Before you start recording to the external hard drive, you need to add the formatted external hard drive to the recording path.

1. On the GV-Desktop, click the **Programs** button, and select **Hot Swap HDD Tool**. The MediaMan Tools window appears.

Figure 3-39

2. Right-click the hard drive in the MediaMan Tools window, select **Add for recording**, and then select the storage group from the drop-down list. The Storage 1 is created by default.
3. Click **OK** to automatically configure the hard drive to the recording path.
4. In the MediaMan Tools window, if the hard disk drive is successfully added to store data, its Status field will display "*Standby*".

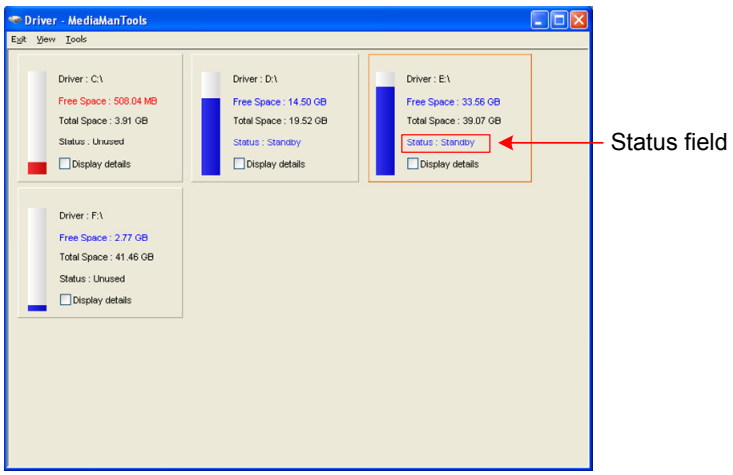

Figure 3-40

5. To add another formatted hard disk drive for storage, repeat the above steps.

3.8 Changing Video Codec and Resolution of GV IP Camera

Several resolution, aspect ratio and codec options are available for GV IP cameras, except GV-Fisheye cameras. Once the video resolution and codec of GV IP cameras are changed on the GV-NVR System Lite, these configurations will override those set on the camera's Web interface.

Note: This setup procedure is only applicable for GV IP cameras.

---

1. On the main screen, click the **Configure** button, select **System Configure**, and click **IP Camera Install**. This dialog box appears.

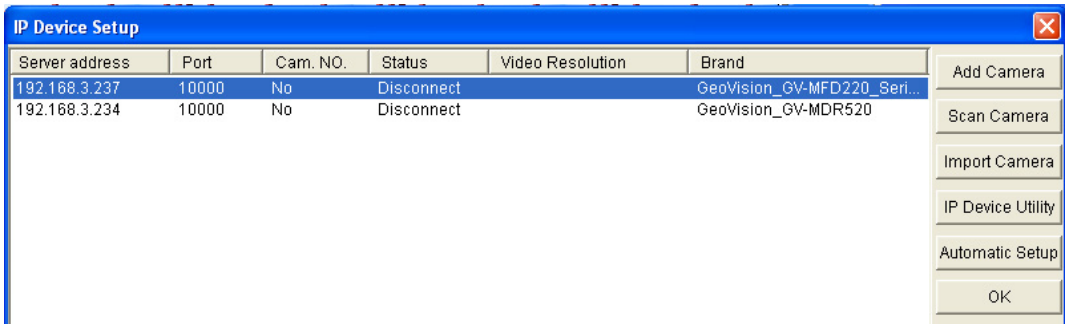

Figure 3-41

2. Click the listed camera, and select **Change live view codec**, **Change record codec** or **Change Resolution** to change the Live View codec or Recording codec and Recording resolution.

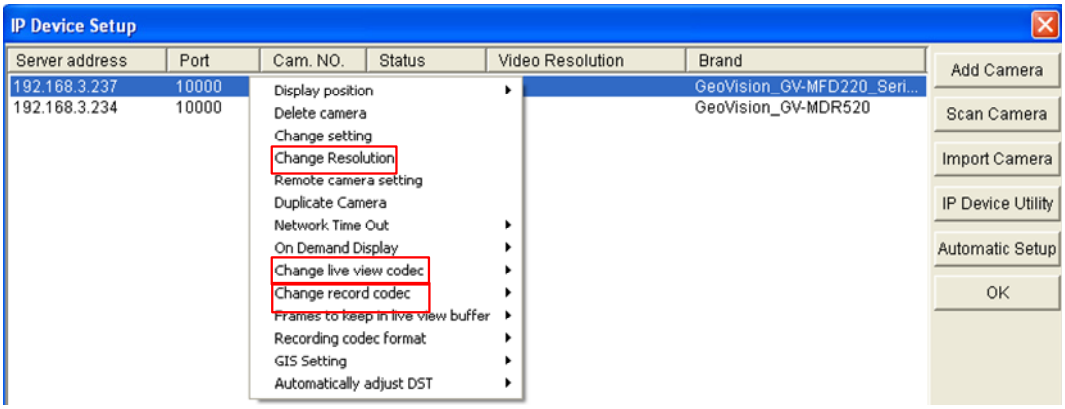

Figure 3-42

3.9 Exiting to Windows

The GV-NVR System Lite is protected by GV-Desktop that is limited to run the selected programs. If you need to exit to Windows desktop, follow these steps.

1. On the GV-Desktop, click the **Settings** button, and type the valid ID and password. The default ID and Password are "**0000**". The Settings dialog box appears.
2. Under Desktop Type, select **Windows** from the drop-down list, and click **OK**.
3. Click the **Log Off** button, and enter the valid ID and Password. The Windows desktop appears.

Figure 3-43 The GV-Desktop

3.10 Returning to GV-Desktop

Click the Windows **Start** button, select **All Programs**, click **GV-NVR**, and click **Key Lock Utility**.

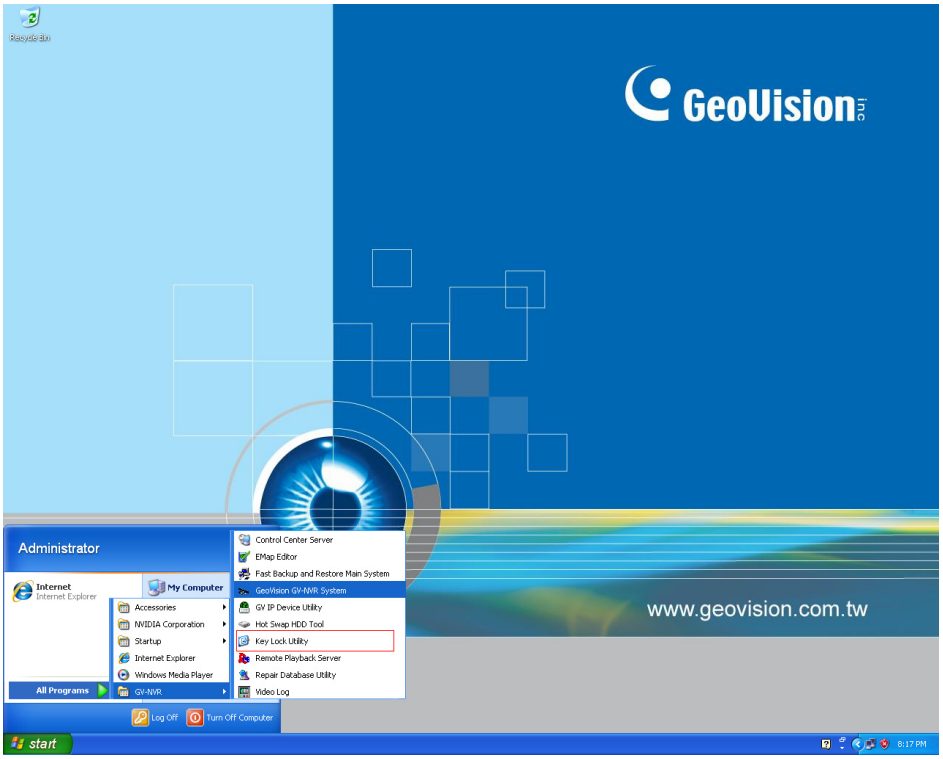

Figure 3-44 Windows XP desktop

3.11 Restoring System

You can restore preinstalled files once they are damaged by running the recovery from the hidden partition. To restore the operating system and all preinstalled software, follow the steps below.

Note: After recovery, you need to re-install all settings and passwords. But the recovery will not delete your recording files saved in the partition D since it only reformats the partition C.

---

1. Restart the GV-NVR System Lite. This image appears.

Figure 3-45

2. Once the above image appears, keep on clicking the **F8** button on the keyboard until the following image appears. Then select **Return to OS Choices Menu**.

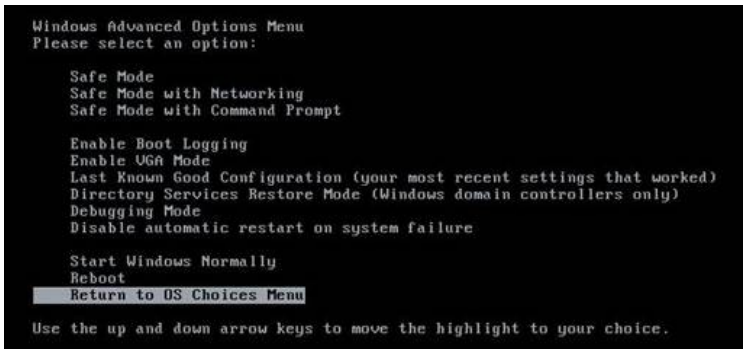
Windows Advanced Options Menu
Please select an option:
Safe Mode
Safe Mode with Networking
Safe Mode with Command Prompt
Enable Boot Logging
Enable VGA Mode
Last Known Good Configuration (your most recent settings that worked)
Directory Services Restore Mode (Windows domain controllers only)
Debugging Mode
Disable automatic restart on system failure
Start Windows Normally
Reboot
Return to OS Choices Menu
Use the up and down arrow keys to move the highlight to your choice.

Figure 3-46

3. Select **Recovery GeoVision NVR System**.

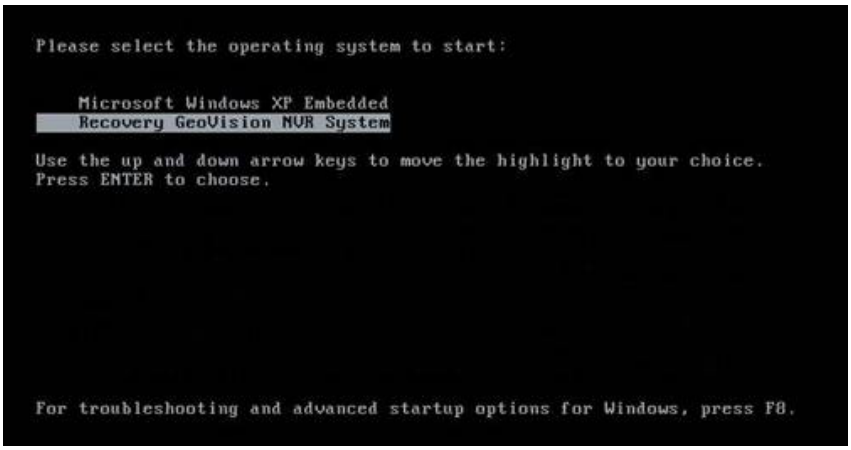
Please select the operating system to start:
Microsoft Windows XP Embedded
Recovery GeoVision NVR System
Use the up and down arrow keys to move the highlight to your choice.
Press ENTER to choose.
For troubleshooting and advanced startup options for Windows, press F8.

Figure 3-47

4. Wait until the "*Recover your partition now. Are you sure?*" message appears. Click **OK** to start the recovery.

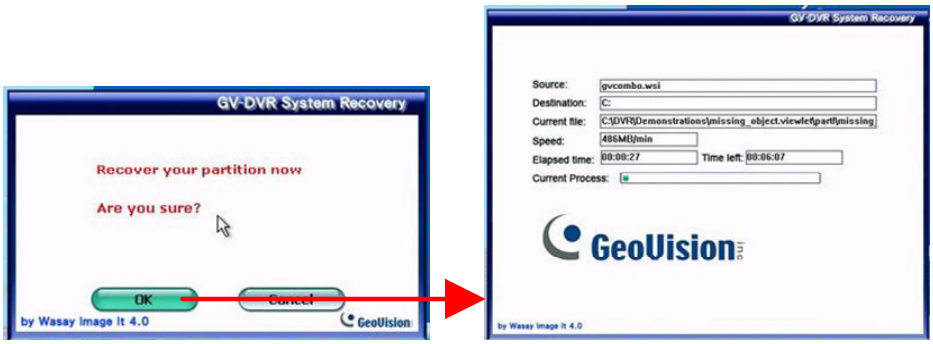

Figure 3-48

5. When the recovery process is complete, the confirmation message "*The recovery process is finished. Please remove DVD and press "OK" to reboot?*" will appear. Click **OK** to restart the GV-NVR System Lite.

3.12 Updating GV-NVR System Lite

If you like to update your GV-NVR System Lite, contact your dealer for more information.

Before contacting your dealer, you may check software update news at our website: http://www.geovision.com.tw

Chapter 4 Firmware Upgrade for GV IP Cameras

GeoVision will periodically release the updated firmware of GV IP camera on the website. The new firmware can be simply loaded into the GV IP camera by using the Web interface of GV IP camera or IP Device Utility of the GV-NVR System Lite.

Important Notes before You Start

Before you start updating the firmware, please read these important notes:

1. While the firmware is being updated,
   A) the power supply of the camera must not be interrupted, and
   B) do not unplug the Ethernet cable of the camera if the cable is the source of power supply (Power over Ethernet or PoE supported).
2. Do not turn the camera power off in 10 minutes after the firmware is updated.
3. If you use the IP Device Utility for firmware upgrade, the GV-NVR System Lite used to upgrade firmware must be under the same network of the camera.

WARNING: The interruption of power supply during updating causes not only update failures but also damages to the camera. In this case, please contact your sales representative and send your device back to GeoVision for repair.

4.1 Using the Web Configuration Interface of GV IP Camera

1. In the Live View window, click the **Show System Menu** button and select **Remote Config**. The **Remote Config** dialog box appears.

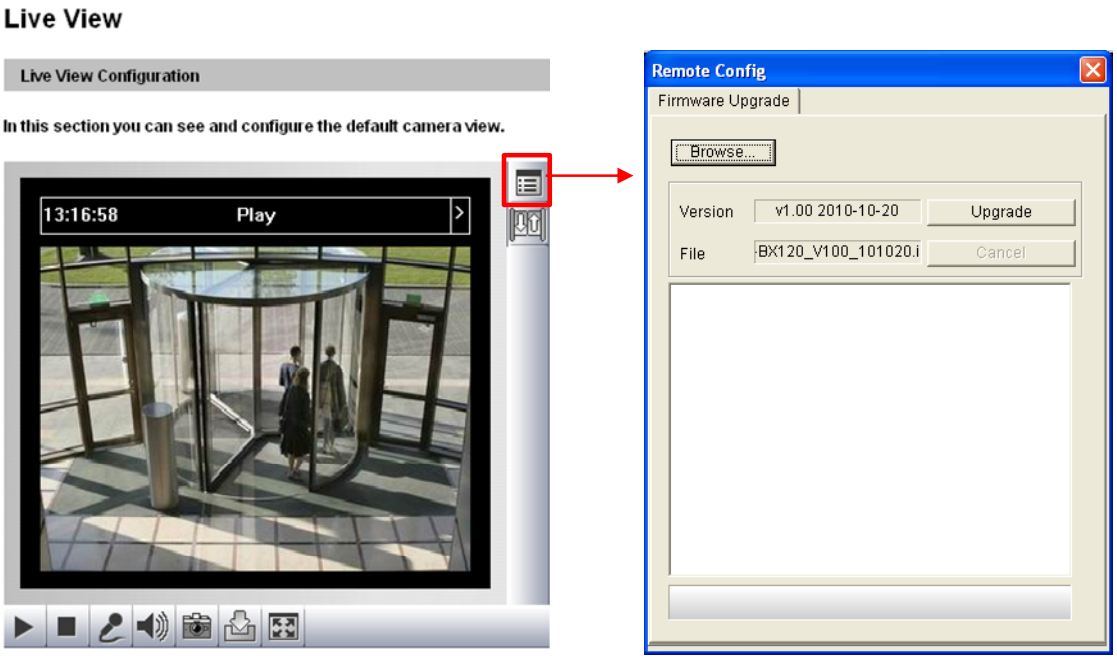

Figure 4-1

2. Click the **Browse** button to locate the firmware file (.img) saved at your GV-NVR System Lite.
3. Click the **Upgrade** button to start the upgrade.

4.2 Using the IP Device Utility

The IP Device Utility provides a direct way to upgrade the firmware to multiple units of GV IP camera. Note GV-NVR System Lite used to upgrade firmware must be under the same network of the camera.

1. On the GV-Desktop, click the **Programs** button. This dialog box appears.

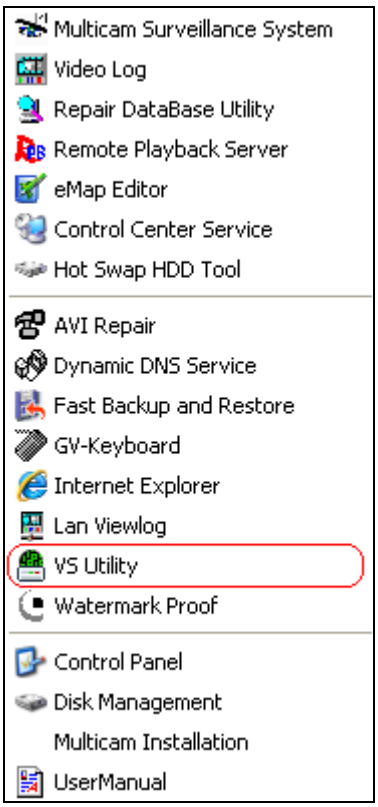

Figure 4-2

2. Select **VS Utility**. This dialog box appears.

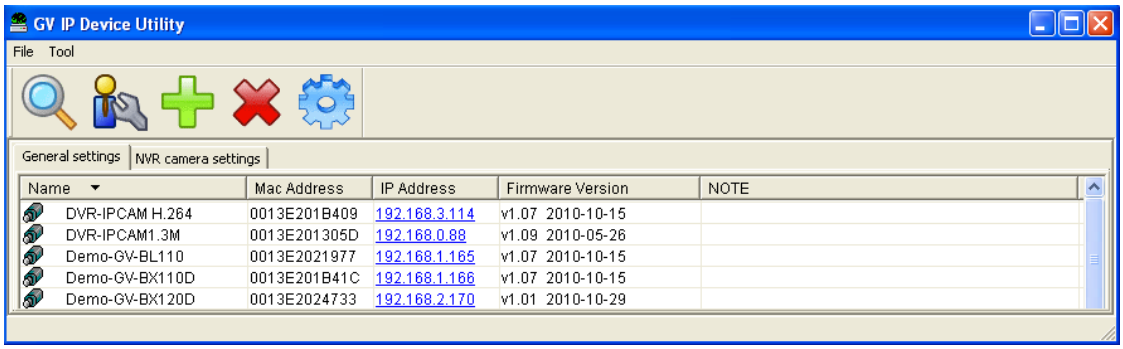

Figure 4-3

3. Click the **Search** button to locate available cameras on the same LAN. Or click the **New** button and assign the IP address to locate the camera over the Internet. Or highlight one camera in the list and click the **Delete** button to remove it.

4. Double-click one camera in the list. This dialog box appears.

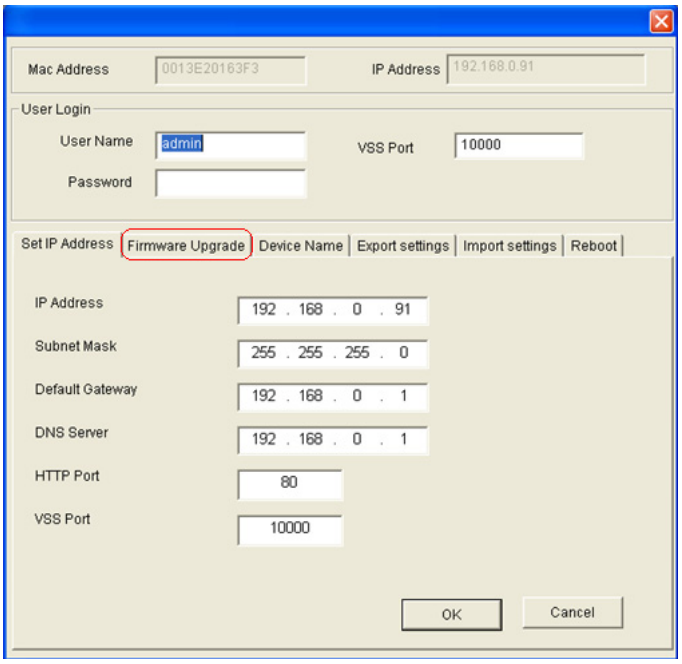

Figure 4-4

5. Click the **Firmware Upgrade** tab. This dialog box appears.

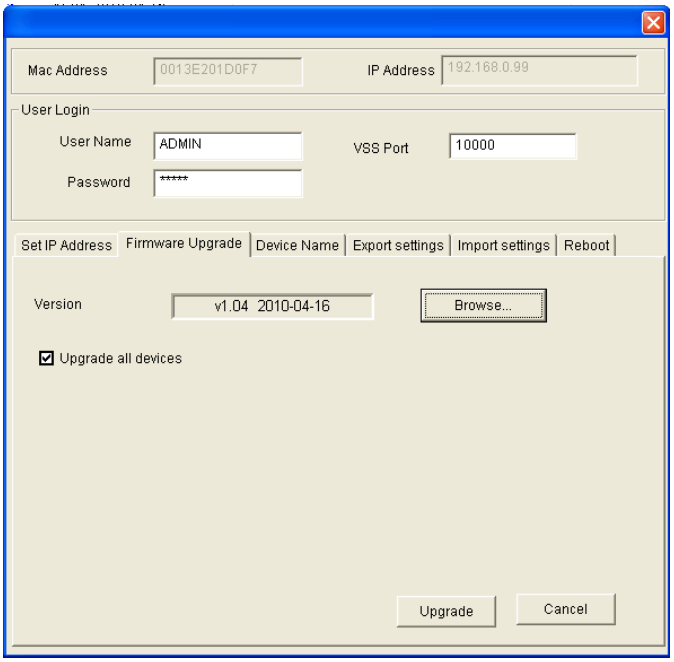

Figure 4-5

6. Click the **Browse** button to locate the firmware file (.img) saved at your GV-NVR System Lite.
7. If you like to upgrade all the cameras in the list, select **Upgrade all devices**.
8. Type **Password**, and click **Upgrade** to start the upgrade.

Chapter 5 Mobile Phone Connection

You can receive live video streaming from the GV-NVR System Lite by using a PDA, Smartphone or 3G-enabled mobile phone. The GV mobile phone applications and their major features are listed as below.

Overview of GV Mobile Phone Applications

Handheld Device View	**GV-GView V2 for Windows PDA**
OS Supported	Windows Mobile 5.0 and 2003 for Pocket PC Windows Mobile 6.0 / 6.1 / 6.5 Classic and Professional
Port	Live View Port: 8866, RPB Port: 5511
Protocol	TCP/IP (Streaming)
Functions	Video streaming, PTZ control, I/O device control, Remote Playback (RPB) and etc.
Handheld Device View	**GV-MSView V2 for Windows Smartphone**
OS Supported	Windows Mobile 5.0 and 2003 for Smartphone Windows Mobile 6.0 / 6.1 / 6.5 Standard and Professional
Port	Live View Port: 8866, RPB Port: 5511
Protocol	TCP/IP (Streaming)
Functions	Video streaming, PTZ control, I/O device control, Remote Playback (RPB) and etc.
Handheld Device View	**GV-MSView V3 for Windows Smartphone**
OS Supported	Windows Mobile 6.0 / 6.1 / 6.5 Standard and Professional
Port	Live View Port: 8866, RPB Port: 5511
Protocol	TCP/IP (Streaming)
Functions	Video streaming, PTZ control, I/O device control, Remote Playback (RPB) and etc.
Handheld Device View	**GV-SSView V3 for Symbian Smartphone**
OS Supported	Nokia S60 2nd Edition and 3rd Edition
Port	Live View Port: 8866, RPB Port: 5511
Protocol	TCP/IP (Streaming)
Functions	Video streaming, PTZ control, I/O device control, Remote Playback (RPB) and etc.
Handheld Device View	**3GPP Viewer for 3GPP Phone**
OS Supported	Mobile phones with players supporting RTSP (Real Time Streaming Protocol)
Port	TCP Port: 8554, UDP Port: 17300-17380
Protocol	TCP/IP (Streaming)
Functions	Video streaming, Remote Playback (RPB), Audio (from GV-NVR System Lite directly) and etc.

Handheld Device View		GV-Remote View V1.1 / V1.2 for BlackBerry Smartphone
OS Supported		**V1.1:** BlackBerry OS 4.2.1 to 5.0 **V1.2:** BlackBerry OS 5.0 to 6.0
Port		Live View Port: 8866, Http Port: 80
Protocol		TCP/IP (JPEG)
Functions		Video streaming, I/O device control, PTZ control (for V1.2 only)
Handheld Device View		GV-iView V2.1.3 for iPhone and iPod Touch
OS Supported		iPhone with iPhone OS 4.3.3 or above iPod Touch with iPhone OS 4.3.3 or above
Port		Live View Port: 8866, RPB Port: 5511, HTTP Port: 80; Command Port: 4550 (for PTZ control); Data Port: 5550 (for PTZ control)
Protocol		TCP/IP (JPEG)
Functions		Video streaming, PTZ control, I/O device control, Remote Playback (RPB) and etc.
Handheld Device View		GV-iView HD V1.0.3 for iPad
OS Supported		iPad OS 4.3.3 or above
Port		Data Port: 8866, RPB Port: 5511, HTTP Port: 80; Command Port: 4550 (for PTZ control); Data Port: 5550 (for PTZ control)
Protocol		TCP/IP (JPEG)
Functions		Video streaming, Remote Playback (RPB), PTZ control, I/O device control and etc.
Handheld Device View		GV-AView V1.1 for Android Smartphone
OS Supported		Android version 2.2 to 3.1
Port		Data Port: 8866, HTTP Port: 80, VSS Port: 10000
Protocol		TCP/IP (JPEG from GV-NVR System Lite; JPEG/MPEG4/H.264 from GV IP Devices directly)
Codec		MJPEG, MPEG4, H.264
Resolution Supported	MJPEG	704 x 480 or below
	MPEG4	704 x 480 or below
	H.264	320 x 240 or below
Functions		Video streaming, Audio (from GV IP devices directly), PTZ control

Note:

1. For the 3G-enabled mobile phone, you can receive live video from GV-NVR System Lite without installing any GV mobile applications.
2. To access live view on your mobile phone, enter the **Live View Port** on your mobile phone. To play video back, enable **Run ViewLog Server** on the WebCam Server and enter the **RPB Port** on your mobile phone.

5.1 Windows PDA

GV-GView V2 is a remote view application for Microsoft PDA. For the supported Windows version, see the *Overview of GV Mobile Phone Applications* chart earlier in this chapter.

When GV-GView V2 detects the big screen panel of the mobile phone, images from the connected GV-NVR System Lite will be horizontally rotated for a better view. Resolution is set to be CIF by default.

Installing GV-GView V2

1. To download GV-GView V2, please go to http://www.geovision.com.tw/english/5_4_gview.asp.
2. Click the **Download** button.
3. Consult your PDA user's manual for how to install a program to the PDA.

Activating the GView Function

To allow remote access to the GV-NVR System Lite, you must enable the **Mobile** function on the WebCam Server.

On the main screen, click the **Network** button, select **WebCam Server**, click the **Mobile** tab, activate the settings of communication ports, and then click **OK**.

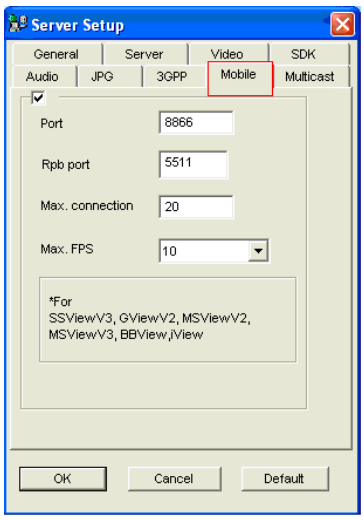

Figure 5-2

Connecting to GV-NVR System Lite

Once GV-GView V2 is installed on your PDA, you can use it to monitor your GV-NVR System Lite. Make sure your PDA has wireless LAN adapter properly in place with access to the Internet.

1. Run **GView V2** on your PDA.

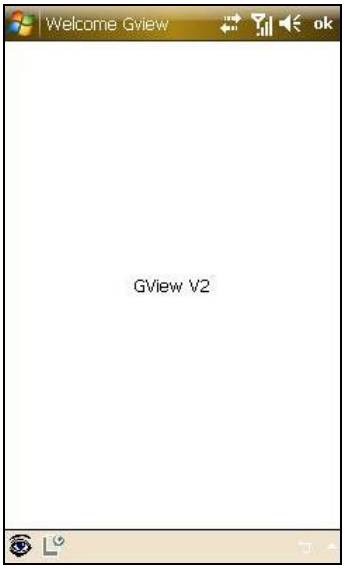

Figure 5-3

2. Click the button located at the lower left corner. The login screen appears.

Figure 5-4

3. Enter the IP address of your GV-NVR System Lite, port value (default value is 8866), a username and a password. Then click **OK**.
4. Once the connection is established, the live video will appear.

Playing Back the Recordings

To play back the recordings, follow these steps:

1. Start the **WeBCam Server** with the following two functions enabled.

   A. Select the **Run ViewLog Server** option on the **General** tab.

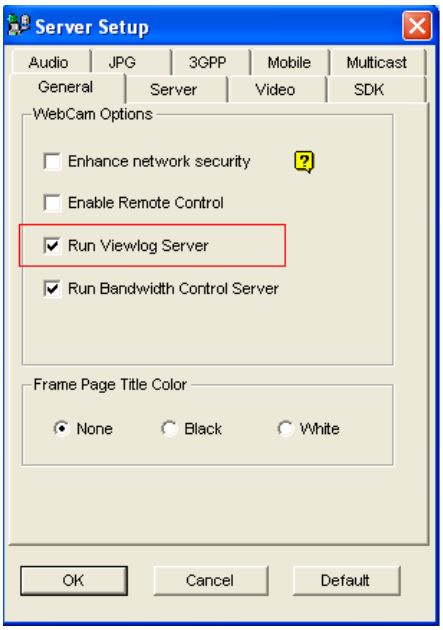

Figure 5-5

   B. Select the **Mobile** option on the **Mobile** tab, and keep the RPB port to be 5511 or modify it if necessary (Figure 5-2).

2. Run **GView V2** on your PDA.
3. Click the button located at the lower left corner (Figure 5-3). The login screen appears.

Figure 5-6

4. Enter the IP address of the GV-NVR System Lite, port value (default value is 5511), a username and a password. Then click **OK** to connect.
5. Select the desired recording on the event list for playback.

Other Functions

In addition to live view and playback, GView V2 offers these functions: viewing and controlling I/O devices, adjusting image quality, starting and stopping recording.

On the live view screen, click the buttons on the toolbar to have the desired functions.

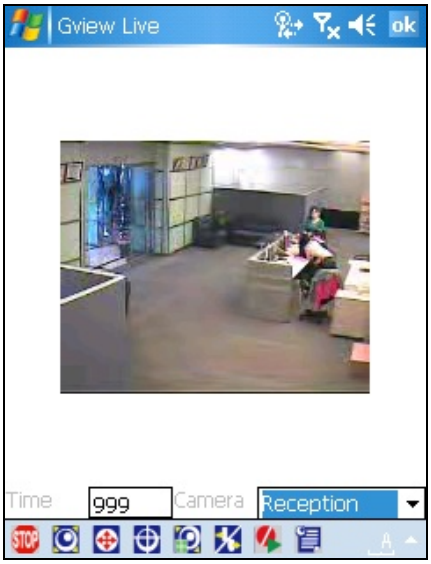

Figure 5-7

Button	Description
	Click it to stop the connection.
	Click it to adjust the image quality.
	Click it to access the connected I/O devices. For details, see *Accessing I/O Devices* later in this chapter.
	Click it to start or stop recording.
	Click it to display the camera status. For details, see *Viewing Camera Status* later in this chapter.
	Use this drop-down list to switch cameras.

Accessing I/O Devices

To access the connected I/O devices, use the drop-down list to select the desired camera and click the button. The I/O module button appears on the toolbar.

Figure 5-8

The number on the toolbar indicates the connected module. Click the desired number to access its I/O devices. The I/O control buttons appear on the toolbar.

Figure 5-9

Button	Description
I	Click it to view the log of input triggers.
O	Click it to display and force the connected output devices.

Viewing Input-Triggered Events

All input triggers are logged on the Alarm list. Click the "**I**" button (Figure 5-9) to view the list of trigger events.

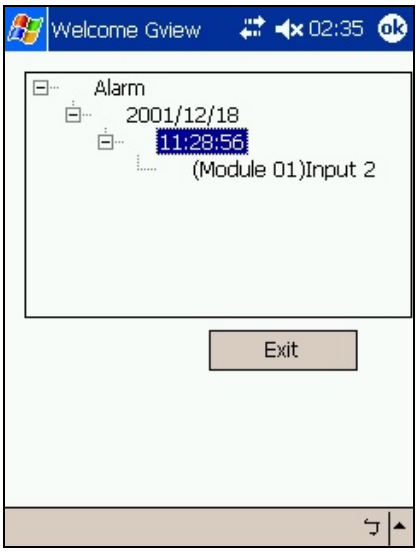

Figure 5-10

Forcing Outputs

To force any connected output devices, click the "**O**" button (Figure 5-9), and click the desired number. The numbers on the toolbar indicate the connected output devices.

Figure 5-11

Controlling PTZ Cameras

To control the PTZ camera, use the drop-down list to select the desired camera, and click the button on the live view screen (see Figure 5-7).

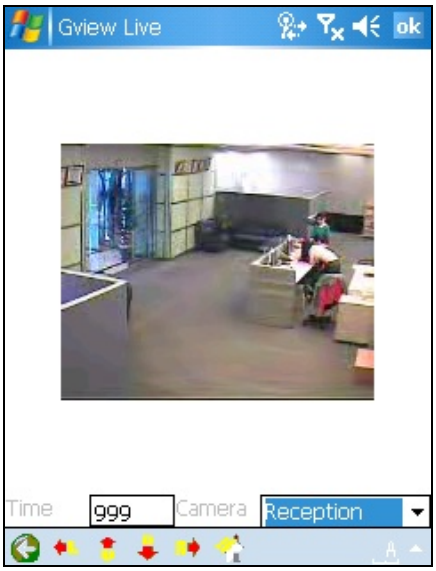

Figure 5-12

Button	Description
	Click it to return to the previous page.
	Use these buttons to move the PTZ camera to the left, up, down and right
	Click it to return to home.

Viewing Camera Status

To view the camera status, click the button on the live view screen (Figure 5-7).

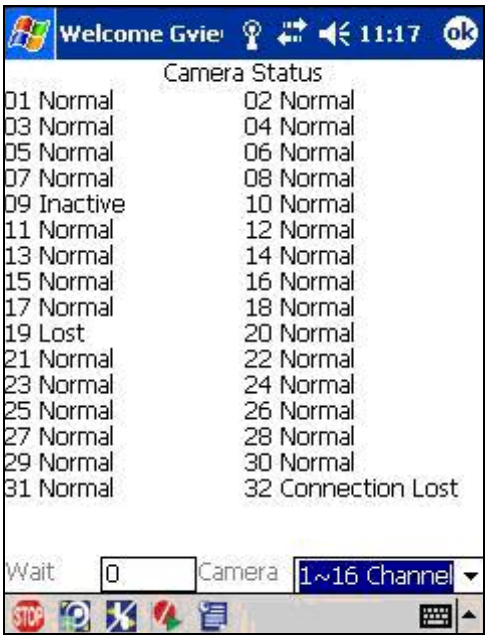

Figure 5-13

This screen displays the status of camera activity. Three messages indicate the current camera status.

Message	Description
Normal	The camera is turned on and not recording.
Inactive	The camera is turned off.
Recording	The camera is recording.

5.2 Windows Smartphone

With the GV-MSView V2 / V3 applications, you can monitor your GV-NVR System Lite remotely through a Windows-based Smartphone. For the supported Windows version, see the *Overview of GV Mobile Phone Applications* chart earlier in this chapter.

Installing GV-MSView V2 / V3

1. To download GV-MSView V2 / V3, please go to http://www.geovision.com.tw/english/5_4_msview.asp.
2. Click the **Download** button.
3. Consult your smartphone user's manual for how to install a program to the smartphone.

Activating the GV-MSView V2 / V3 Function

To allow remote access to the GV-NVR System Lite, you must enable the **Mobile** function on the WebCam Server (Figure 5-2).

Connecting to GV-NVR System Lite

The following operations may vary slightly for different modules.

1. Run **MSViewV2.exe** or **MSViewV3.exe** on your Smartphone.

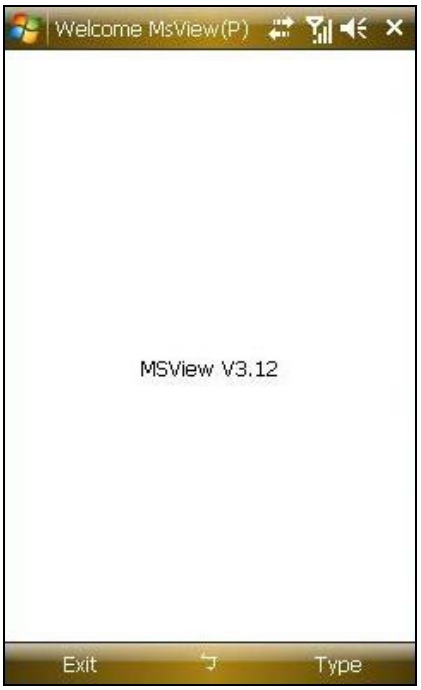

Figure 5-14

2. Click **Type** and select **Live**.

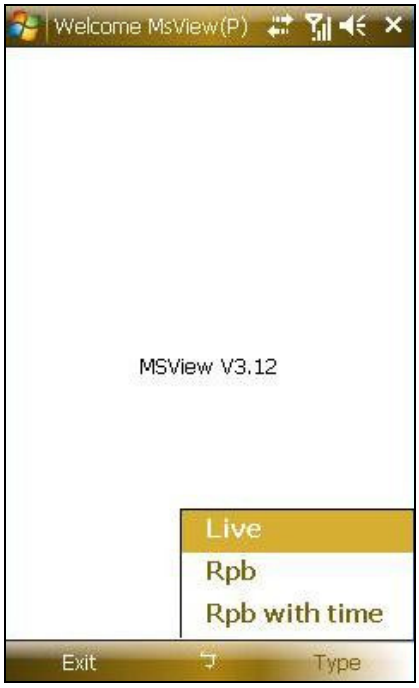

Figure 5-15

3. On the login screen, enter the IP address of the GV-NVR System Lite, port value (default value is 8866), a username and a password. Then click **Control** and select **Connect**.

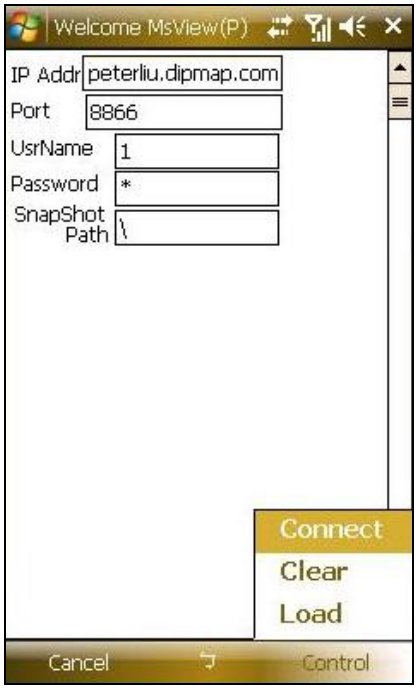

Figure 5-16

4. Once the connection is established, the live video will appear. You can use the scroll key on your Smartphone to navigate camera channels.

Figure 5-17

Playing Back the Recordings

To play back the recordings, follow these steps:

1. Start the **WeBCam Server** with the following two functions enabled.
   A. Select the **Run ViewLog Server** option on the **General** tab (Figure 5-5).
   B. Select the **Mobile** option on the **Mobile** tab, and keep the RPB port to be 5511 or modify it if necessary (Figure 5-2).
2. Run **MSView V2** or **MSView V3** on your Smartphone.
3. Click **Type** and then select **RPB** (Figure 5-15). If you want to search the recordings within a specific period of time for playback, select **RPB with time**.

4. On the Login screen, enter the IP address of the GV-NVR System Lite, port value (default value is 5511), a username and a password. Then click **Select** and click **GV DVR** to start the connection.

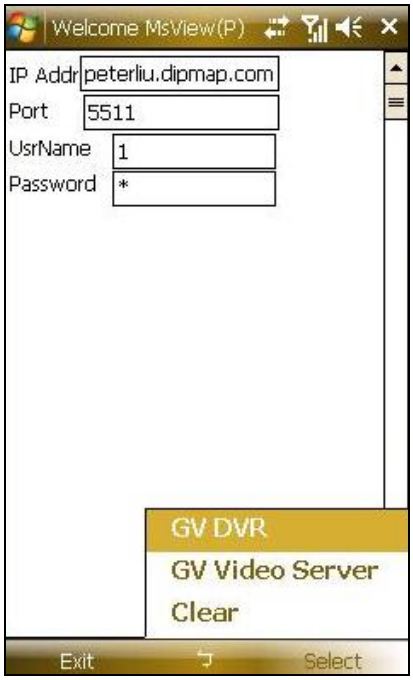

Figure 5-18

5. Select the desired video recording on the event list for playback.

Other Functions

In addition to live view, GV-MSView V2 or GV-MSView V3 offers these functions: rotating images and controlling outputs. Select the **Control** option to have these features.

5.3 Symbian Smartphone

With the GV-SSView V3 application, it's also possible to monitor your GV-NVR System Lite through a Symbian-based Smartphone. For the supported Symbian version, see the *Overview of GV Mobile Phone Applications* chart earlier in this chapter.

Installing GV-SSView V3

1. To download GV-SSView V3, please go to http://www.geovision.com.tw/english/5_4_ssview.asp.
2. Click the **Download** button.
3. Consult your smartphone user's manual for how to install a program to the smartphone.

Activating the GV-SSView V3 Function

To allow remote access to the GV-NVR System Lite, you must enable the **Mobile** function on the WebCam Server (Figure 5-2).

Connecting to GV-NVR System Lite

The following operations may vary slightly for different modules.

1. Run **GV-SSView V3** on your Smartphone.

Figure 5-19

2. Click **Options**, and select **Live Connect**.

Figure 5-20

3. On the Login screen, enter the IP address of the GV-NVR System Lite, port value (default value is 8866), a login username and a password. Then click **Options** and select **Connect**.

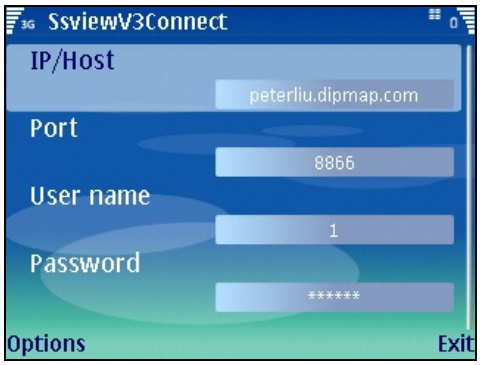

Figure 5-21

4. Once the connection is established, the live video will appear.

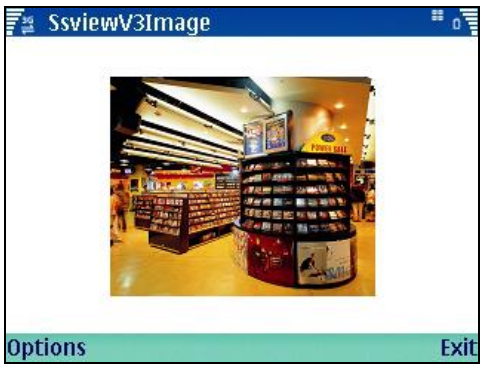

Figure 5-22

Quick Connection

The IP addresses of connected servers can be stored for quick connection in the future. Press the **[<]** and **[>]** buttons on the mobile device to select the desired server for connection.

Playing Back the Recordings

To play back the recordings from the GV-NVR System Lite, follow these steps:

1. Start the **WeBCam Server** with the following two functions enabled.
   A. Select the **Run ViewLog Server** option on the **General** tab (Figure 5-5).
   B. Select the **Mobile** option on the **Mobile** tab, and keep the RPB port to be 5511 or modify it if necessary (Figure 5-2).
2. Run **GV-SSView V3** on your Smartphone.

3. Click **Options**, and select **RPB** (Figure 5-20). If you want to search the recordings within a specific period of time for playback, select **RPB With Time**.

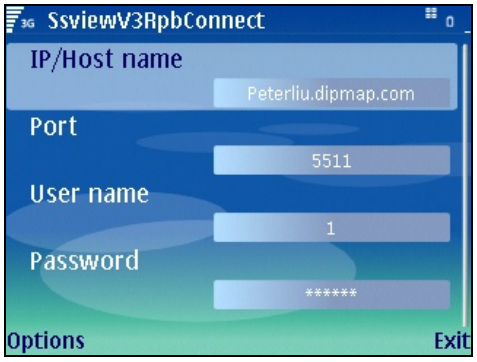

Figure 5-23

4. On the Login screen, enter the IP address of your GV-NVR System Lite, port value (default value is 5511), a username and a password. Then click **Options** and select **Video Server**.
5. Select the desired recording on the event list for playback.

Other Functions

In addition to live view, SSView offers other useful functions, such as changing camera channels, rotating images and seeing Server and WebCam information. Select **Options** to have these features.

5.4 BlackBerry Phone

With the GV-Remote View V1.1 and V1.2 phone applications, you can remotely view live video, force output devices to be triggered, and start and stop monitoring from your BlackBerry phone.

Installing GV-Remote View

1. To download GV-Remote View V1.1 or V1.2, please go to: http://www.geovision.com.tw/english/5_4_bbview.asp
2. Download GV-Remote View from BlackBerry App World.

Activating the GV-Remote View Function

To allow remote access to GV-NVR System Lite, enable these two functions on the WebCam Server:

1. On the main screen, click the **Network** button, select **WebCam Server**, click the **JPG** tab, and select **Create JPEG/GIF file(s)**.

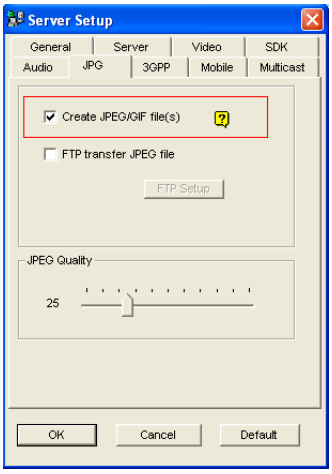

Figure 5-24

2. Enable the **Mobile** function on the **Mobile** tab, and keep the RPB port to be 5511 or modify it if necessary (Figure 5-2).

Connecting to GV-NVR System Lite

To connect your BlackBerry phone to GV-NVR System Lite, follow these steps:

1. Click the **GV-Remote View** icon

on your phone, the welcome page appears.
2. Select **Create Live Connection**. The Login page appears.

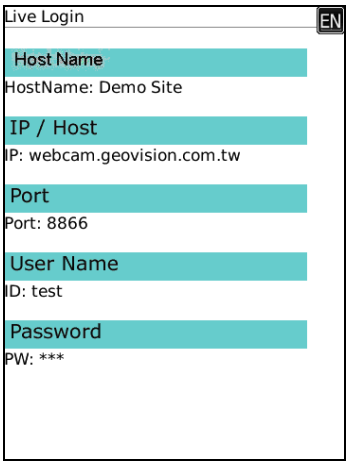

Figure 5-25

3. Enter the IP address, port value (default value is 8866), a username and a password to log in GV-NVR System Lite.
4. Select **Connect** to start. Once the connection is established, the Camera List appears.

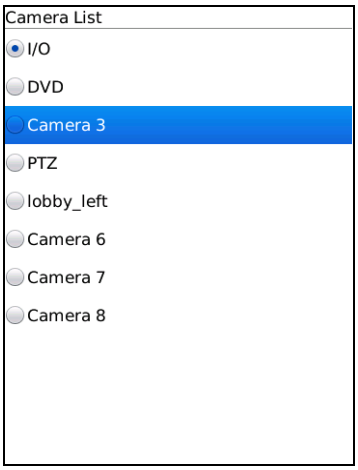

Figure 5-26

5. Select the desired camera and select **OK** to access the live view.
6. To change to another camera, select **Change Camera**, and follow Step 3.

Forcing Outputs

1. To force any connected output devices, select a camera from the Camera List and select **IO Module**. The IO Module List appears.

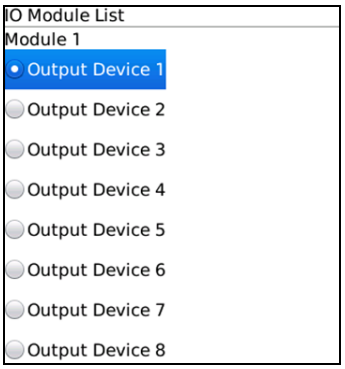

Figure 5-27

2. Scroll down to select the desired output device on the list, and push in the scroll wheel to select **Force Output**.
3. To force another output device, select **IO Module** again and repeat Step 2.

PTZ Control

1. To access the PTZ functions, select a camera from the Camera List and select **PTZ control**. The PTZ control panel appears.

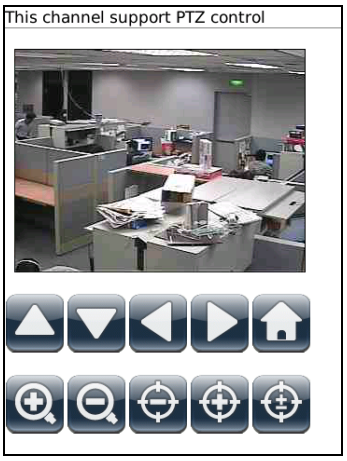

Figure 5-28

2. You can tap the direction buttons and the zoom buttons to control the camera. Tap the home button to return to home position. You can also adjust the focus of the camera using the focus buttons or tap the autofocus button .

Note: The PTZ control function is only supported in GV-Remote View V1.2.

5.5 3G Mobile Phone

Without installing any GV applications, you can directly access live video or recordings from a 3G-enabled mobile phone.

Activating the 3G Mobile Phone Function

To allow remote access to GV-NVR System Lite, you must enable the **3GPP** function on the **WebCam Server**.

On the main screen, click the **Network** button, select **WebCam Server**, click the **3GPP** tab, activate the settings of communication ports, and then click **OK**.

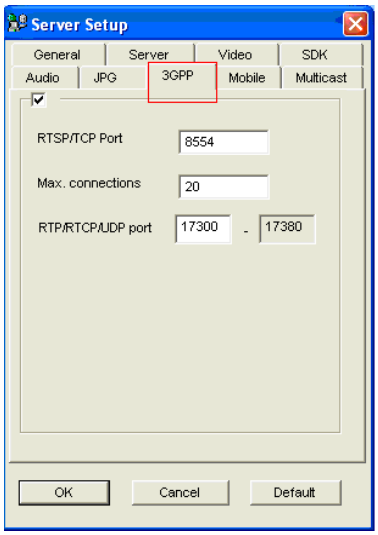

Figure 5-29

Connecting to GV-NVR System Lite

1. On the mobile phone, open the Internet browser, and enter the IP address of the GV-NVR System Lite to establish the connection.
2. On the Login page, enter a username and a password, select **3G**, and click **Submit**.

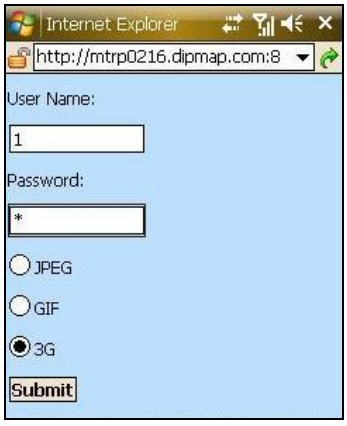

Figure 5-30

3. Select **Live**. If you want to change the video settings, use the drop-down lists to configure video size, quality and audio codec. Then scroll down the page to click **Submit**.

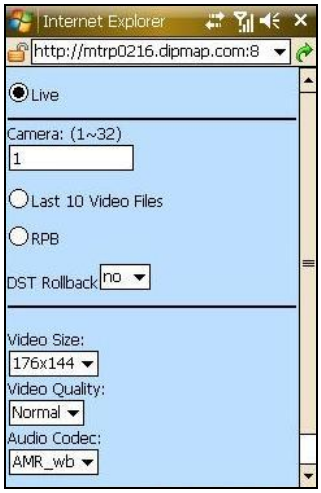

Figure 5-31

4. On the camera list, click the desired camera to access its live view, and then click **Next**.

Figure 5-32

5. The default player is called up and the live video appears. Note the players on the mobile phones may be different.

Figure 5-33

Playing Back the Recordings

You can play back the recordings on the 3G mobile phone. Note that only the videos recorded in the CIF resolution are available for playback.

To search the recordings of the specific time, follow these steps:

1. On the Settings page (Figure 5-31), select **RPB** and click **Submit**. This page appears.

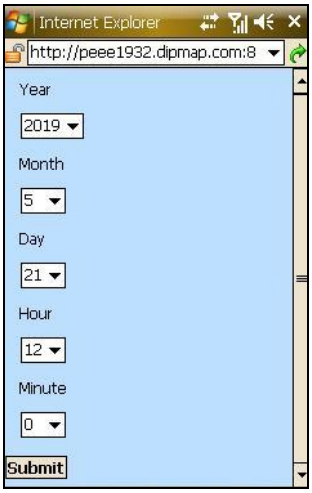

Figure 5-34

2. Use the drop-down lists to define the specific time for search, and then click **Submit**.
3. The event list will display the 10 recordings after the defined time. Select the desired recording on the event list for playback.

To play back the last ten recordings, follow these steps:

1. On the Settings page (Figure 5-31), select **Last 10 Video Files** and click **Submit**.
2. The event list will display the last 10 recordings. Select the desired recording on the event list for playback.

5.6 I-Mode Phone

You can monitor your GV-NVR System Lite remotely with

- I-Mode phone, or
- Mobile phone supporting xhtml, chtml, or html and capable of GPRS.

When using i-Mode services, you do not pay for the connection time, but will be charged by the volume of data transmitted and/or received. Therefore, i-Mode will NOT receive live video streaming; instead, it will receive one image at a time and will not receive another unless it is requested to do so. To request another image, simply press the **Enter** key on your i-Mode phone. The images are in GIF or JPEG format with resolution of 96x72 pixels.

Activating the i-Mode Function

To allow the remote access to GV-NVR System Lite, you must enable the **Create JPEG/GIF file(s)** function on the WebCam Server (Figure 5-24).

Connecting to GV-NVR System Lite

The following operations may vary slightly for different modules.

1. Open the i-Mode menu, and select **Input Web Address**.

Figure 5-35

2. Enter the IP address of your GV-NVR System Lite in the Address column, and then press **OK**.

Figure 5-36

3. Type a valid username and password, and then press **Submit**.

Figure 5-37

4. Select the desired camera channel, and then press **Enter**.

Figure 5-38

5. If you log in successfully, the i-Mode phone will start receiving live video from the GV-NVR System Lite.

5.7 iPhone and iPod Touch

GV-iView function is introduced to support iPhone and iPod Touch for the mobile surveillance application. For the supported operating system version, see the *Overview of GV Mobile Phone Applications* chart earlier in this chapter.

Installing GV-iView

You can download GV-iView V2.1.3 from **App Store** and install the application. The GV-iView icon will appear on the desktop.

Figure 5-39

Note: You can also download GV-iView on iTunes Store through the computer.

Activating the GV-iView Function

To allow remote access to GV-NVR System Lite, the following two functions must be enabled on the WebCam server:

1. On the main screen, click the **Network** button, select **WebCam Server**, click the **JPG** tab, and select **Create JPEG/GIF file(s)** (Figure 5-24).

2. Click the **Mobile** tab, and activate the settings of communication ports (Figure 5-2).

Note: If there is a router or firewall installed, ensure these communication ports required by the WebCam server are open: HTTP Port 80, HTTPS Port 443 (if SSL is enabled), Live View Port 8866 and RPB Port 5511.

Accessing Live View

To access live view on your mobile device:

1. Activate **GV-iView** on the mobile device.
2. On the login screen, enter the IP address of the GV-NVR System Lite, port value (default value is 8866), ID and Password. Then press **Connect**. Once the connection is established, the live display of 6 cameras will appear.
3. Select **ON** for HTTPS if SSL is enabled for **WebCam Server**. If the default SSL port of 443 on the WebCam Server is modified, specify the new port number used for HTTPS connection at the end of the IP address, e.g., www. geovision.com.tw:445.

Figure 5-40

Note: If the default HTTP port of 80 on the WebCam Server is modified, specify the new port number used for HTTP connection at the end of the IP address, e.g., webcam.geovision.com.tw:81.

Playing Back the Recordings

To retrieve the events recorded on the GV-NVR System Lite and play them back:

Note:

1. The remote playback (RPB) function is only supported if the video was recorded with a resolution of CIF or lower.
2. The remote playback (RPB) function does not support the playback of video files recorded on the GV IP devices.

---

1. On the login screen (Figure 5-40), press RPB View

.
2. Enter the IP address of the GV-NVR System Lite, port value (default value is 5511), ID and Password. You can also search the recordings of a specified date and time by selecting **RPB Time Setting** and entering the date and time. Then press **Connect**.

Figure 5-41

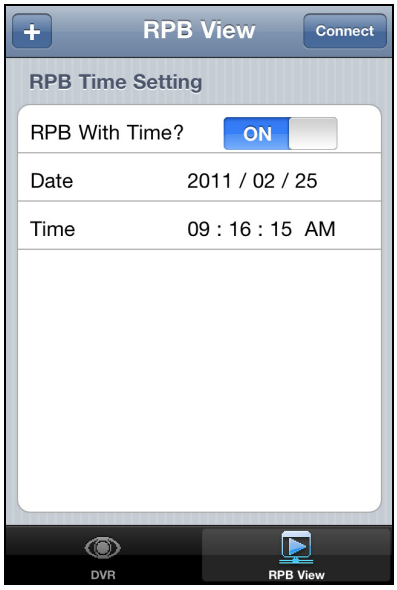

Figure 5-42

3. Select the desired recordings from the event list for playback. Use the **Change cam** button at the top right corner to switch cameras.

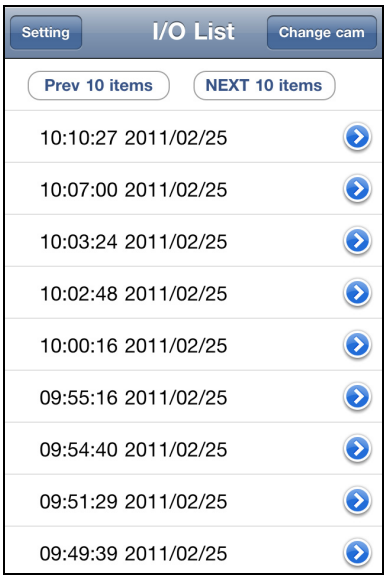

Figure 5-43

Other Functions

After you enlarge one channel, you can find the following buttons for control.

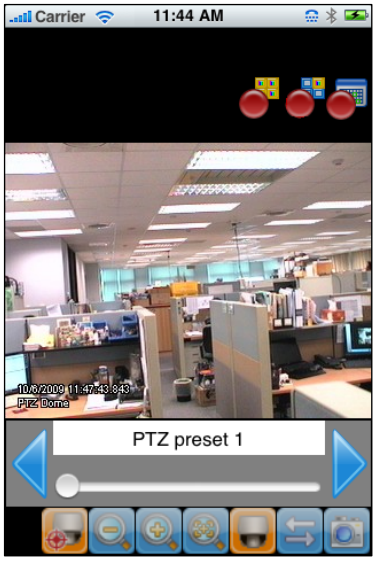

Figure 5-44

Button	Name	Function
	Enable Record	Activates recording controls.
	Record One Channel	The button is available when you press the **Enable Record** button. Starts / stops recording the current channel.
	Record All Channels	The button is available when you press the **Enable Record** button. Starts / stops recording all channels.
	Enable I/O	Activates the output controls.
	Snapshot	Takes a snapshot of image.

PTZ Speed Control for PTZ Cameras

Click anywhere on the Live View screen of PTZ camera to bring up the PTZ Speed Setting panel. Select your desirable level of PTZ speed. Higher value means higher speed.

Figure 5-45

Accessing I/O Devices

1. Press the **Enable I/O** button. The screen, similar to the following image, appears.
2. Use the left and right buttons to change the I/O module, and use the scrollbar to change the output device.

3. Press IO Module 1 (output: 1) to manually force the output to be activated.

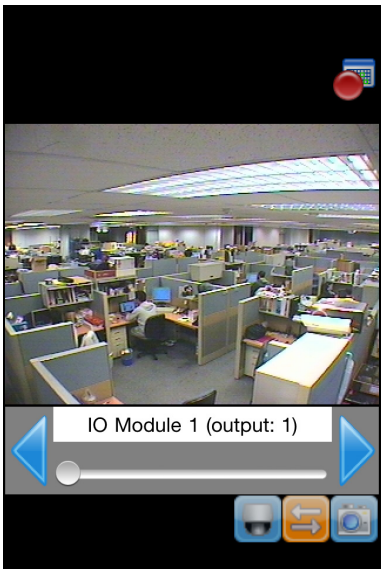

Figure 5-46

My Favorite

On the login screen (Figure 5-40) you can find the My Favorite option, allowing you to add several links of GV-NVR System Lite servers for quick connections. Up to 50 links can be created.

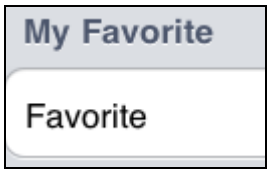

Figure 5-47

5.8 iPad

GV-iView HD function is introduced to support iPad for the mobile surveillance application

Installing GV-iView

You can download GV-iView HD from **App Store** and install the application. The GV-iViewHD icon will appear on the desktop.

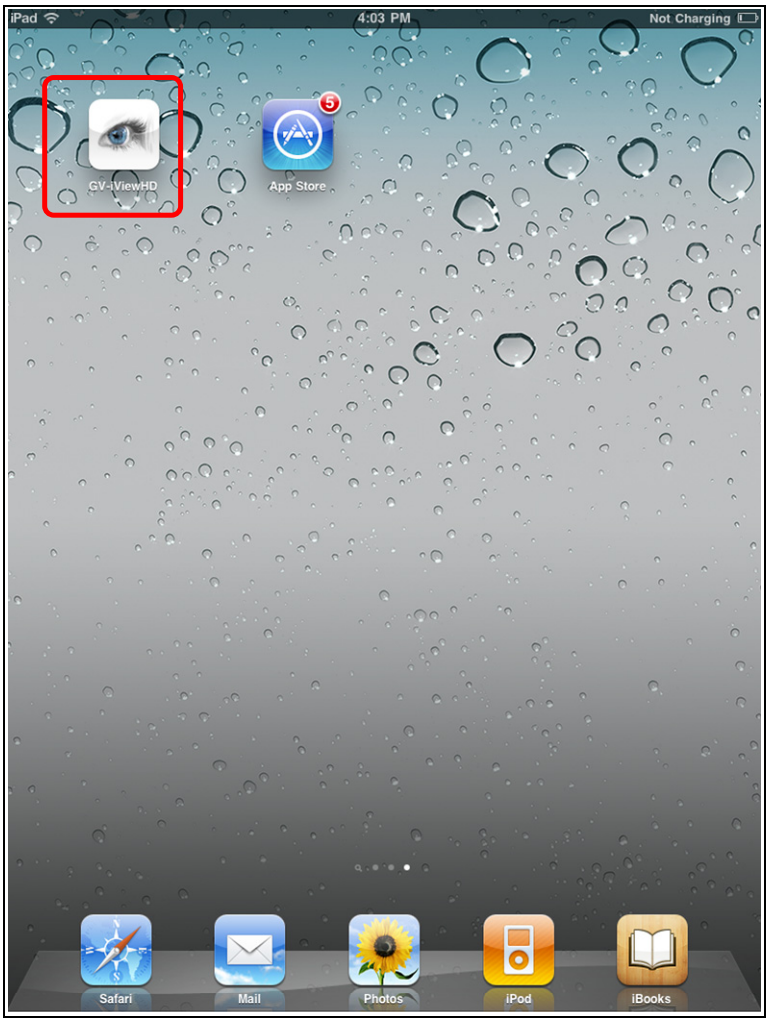

Figure 5-48

Note: You can also download GV-iView HD on iTunes Store through the computer.

Activating the GV-iView HD Function

To allow remote access to GV-NVR System Lite, the following two functions must be enabled on the WebCam server:

1. On the main screen, click the **Network** button, select **WebCam Server**, click the **JPG** tab, and select **Create JPEG/GIF file(s)** (Figure 5-24).
2. Click the **Mobile** tab, and activate the settings of communication ports (Figure 5-2).

Note: If there is a router or firewall installed, ensure these communication ports required by the WebCam server are open: HTTP Port 80, HTTPS Port 443 (if SSL is enabled), Live View Port 8866 and RPB Port 5511.

Accessing Live View

To access live view on your mobile device:

1. Activate **GV-iView HD** on the mobile device.
2. On the login screen, enter the IP address of the GV-NVR System Lite, port value (default value is 8866), ID and Password. Then press **Connect**. Once the connection is established, the live display of 6 cameras will appear.
3. Select **ON** for HTTPS if SSL is enabled for **WebCam Server**. If the default SSL port of 443 on the WebCam Server is modified, specify the new port number used for HTTPS connection at the end of the IP address, e.g., www. geovision.com.tw:445.

Figure 5-49

Note: If the default HTTP port of 80 on the WebCam Server is modified, specify the new port number used for HTTP connection at the end of the IP address, e.g., webcam.geovision.com.tw:81.

Playing Back the Recordings

To retrieve the events recorded on the GV-NVR System Lite and play them back:

Note:

1. The remote playback (RPB) function is only supported if the video was recorded with a resolution of CIF or lower.
2. The remote playback (RPB) function does not support the playback of video files recorded on the GV IP devices.

1. On the login screen (Figure 5-49), press RPB View

.
2. Enter the IP address of the GV-NVR System Lite, port value (default value is 5511), ID and Password. You can also search the recordings of a specified date and time by selecting **RPB Time Setting** and entering the date and time. Then press **Connect**.

Figure 5-50

Figure 5-51

3. Select the desired recordings from the event list for playback. Use the **Change cam** button at the top right corner to switch cameras.

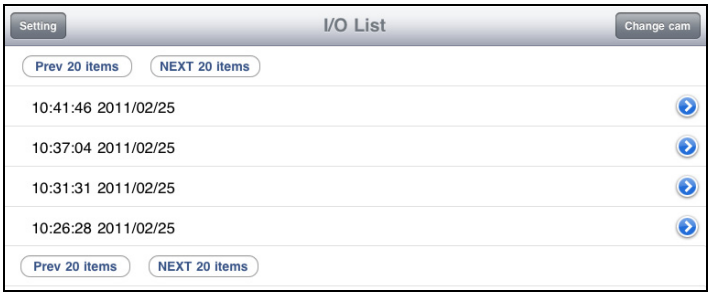

Figure 5-52

Other Functions

After you enlarge one channel, you can find the following buttons for control.

Figure 5-53

Button	Name	Function
	Enable Record	Activates recording controls.
	Record One Channel	The button is available when you press the **Enable Record** button. Starts / stops recording the current channel.
	Record All Channels	The button is available when you press the **Enable Record** button. Starts / stops recording all channels.
	Enable I/O	Activates the output controls.
	Snapshot	Takes a snapshot of image.

PTZ Speed Control for PTZ Cameras

Click anywhere on the Live View screen of PTZ camera to bring up the PTZ Speed Setting panel. Select your desirable level of PTZ speed. Higher value means higher speed.

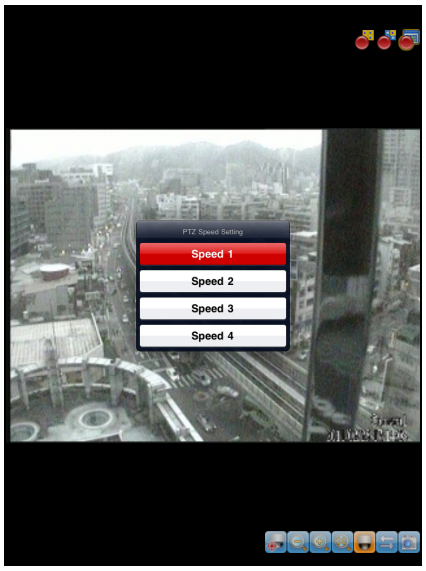

Figure 5-54

Accessing I/O Devices

4. Press the **Enable I/O** button. The screen, similar to the following image, appears.
5. Use the left and right buttons to change the I/O module, and use the scrollbar to change the output device.
6. Press IO Module 1 (output: 1) to manually force the output to be activated.

Figure 5-55

My Favorite

On the login screen (Figure 5-49) you can find the My Favorite option, allowing you to add several links of GV-NVR System Lite servers for quick connections. Up to 50 links can be created.

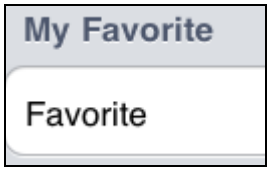

Figure 5-56

5.9 Android Smartphone

You can now access GV-NVR System Lite using Android version 2.2-4.0. Download **GV-AView** from Android Market, and after installing the application, the GV-AView icon will appear on the desktop. Follow the steps below to access a GV-NVR System Lite.

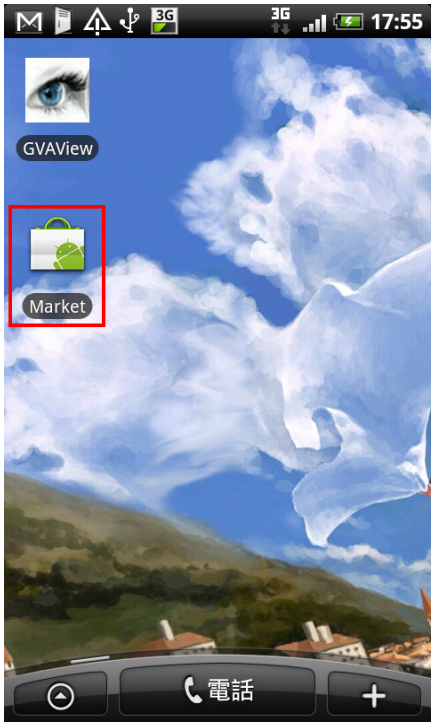

Figure 5-57

Allowing Remote Access to GV-NVR System Lite

To access the GV-NVR System Lite using GV-AView, you need to first activate the JPG settings and the mobile function on the GV-NVR System Lite and then connect to the GV-NVR System Lite from your mobile device.

1. In the main system, click the **Network** button and select **Webcam Server**.
2. In the dialog box that appears, click the **JPG** tab and select **Create JPEG/GIF file(s)**.
3. Click the **Mobile** tab and select the checkbox to enable the mobile function.
4. Click **OK** to save the settings.

Accessing Live View on GV-NVR System Lite

1. On your mobile phone, double-tap the **GV-AView** icon on the main page.
2. Tap the **NVR/DVR View** tab on the top. This page appears.

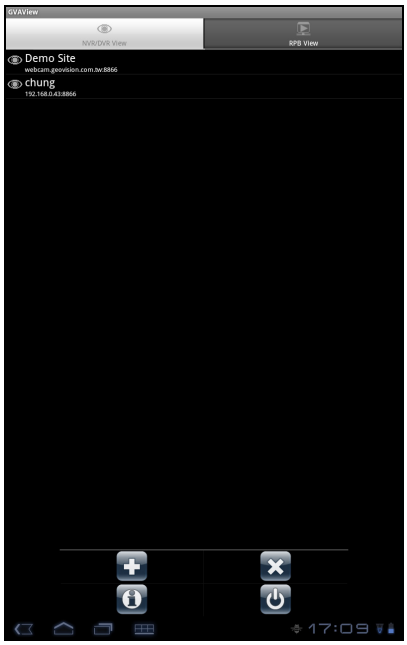

Figure 5-58

3. Tap the menu button to access the following buttons:
   - : **Add** the connection information of a GV-System to the address book.
   - : **Delete all** entries in the address book.
   - : Displays the **Installation Guide**.
   - : **Exit** the application.
4. Tap the **Add** button and type the IP address, port number, user name and password of the GV-System you want to access.

Note: If the default HTTP port of 80 on the WebCam Server of the GV-System is modified, specify the new port number used for HTTP connection at the end of the IP address, e.g., webcam.geovision.com.tw:81.

---

5. On the bottom of the screen, tap the **Add** button to save the connection information or tap the **Connect** button to connect to the GV-System. Up to 6 camera live views can be displayed on each page.

6. Press the menu button on the mobile phone to see the following options:

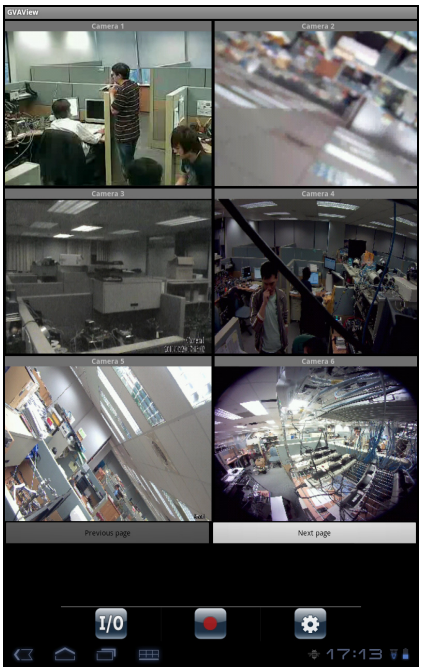

Figure 5-59

- **I/O Trigger** : Forces I/O devices to be triggered.
- **Record Event** : Starts or stops recording the current channel or all channels.
- **Image setting** : Changes the image quality between **Normal** and **Good**.

7. Double-tap the live view to see it in single view. You can tap the **Snapshot** button to capture the current image.

8. If the camera supports PTZ functions, tap the **PTZ** button and use the touch screen to control the camera. The following control buttons are also available:

- : Moves the camera toward different directions.
- : Zooms in and out.
- : Adjusts the focus.
- : Moves the camera back to Home position.
- : Auto focus.
- : Moves the camera to a preset point by typing the preset number.

Chapter 6 NVR Health Analysis

GeoVision offers health analysis to GV-NVR System Lite. The service is intended to give diagnosis for early and immediate detection of problems.

It is recommended to have the health analysis during the first week after you install the GV-NVR System Lite, and then have the checkup every three months. It will take 5 working days for response.

Please prepare the following data for analysis, and send to dvrsystem@geovision.com.tw

- **System Settings**
- **System Log**
- **Information of your computer system (Processor; Drives; Voltage, Temperature and Fans)**

6.1 System Settings

Please back up your system configurations using the **Fast Backup and Restore** application.

1. Run **Fast Backup & Restore Main System** from the Start menu.

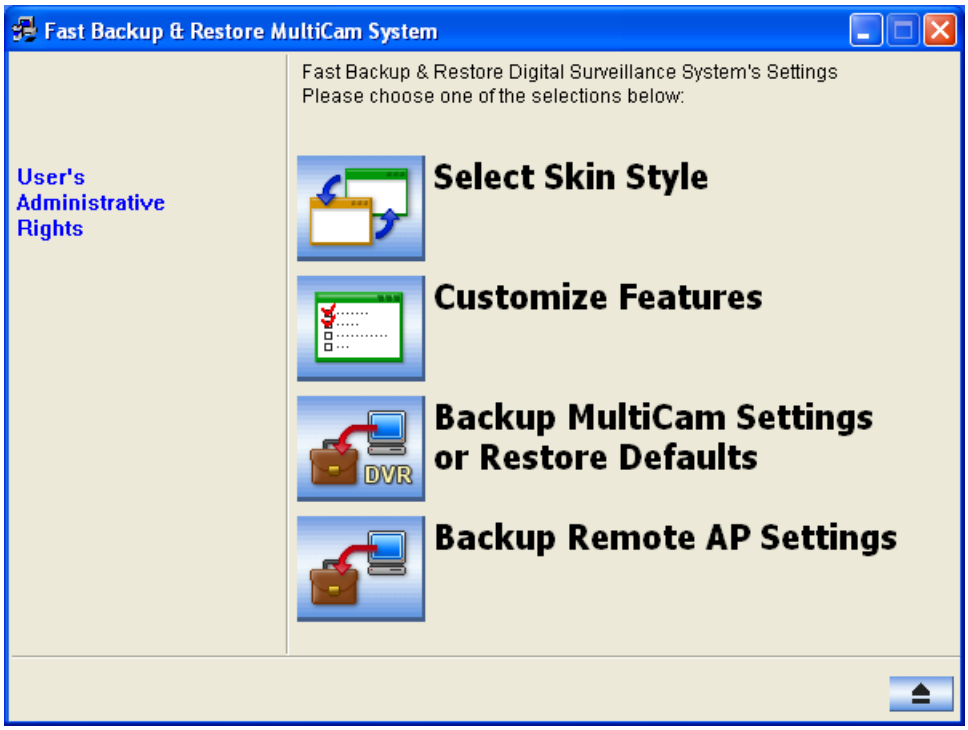
Fast Backup & Restore MultiCam System
Fast Backup & Restore Digital Surveillance System's Settings
Please choose one of the selections below:
User's Administrative Rights
Select Skin Style
Customize Features
DVR
Backup MultiCam Settings or Restore Defaults
Backup Remote AP Settings

Figure 6-1

2. Select **Backup MultiCam Settings or Restore Defaults**, and select **Backup Current System**. This dialog box appears.

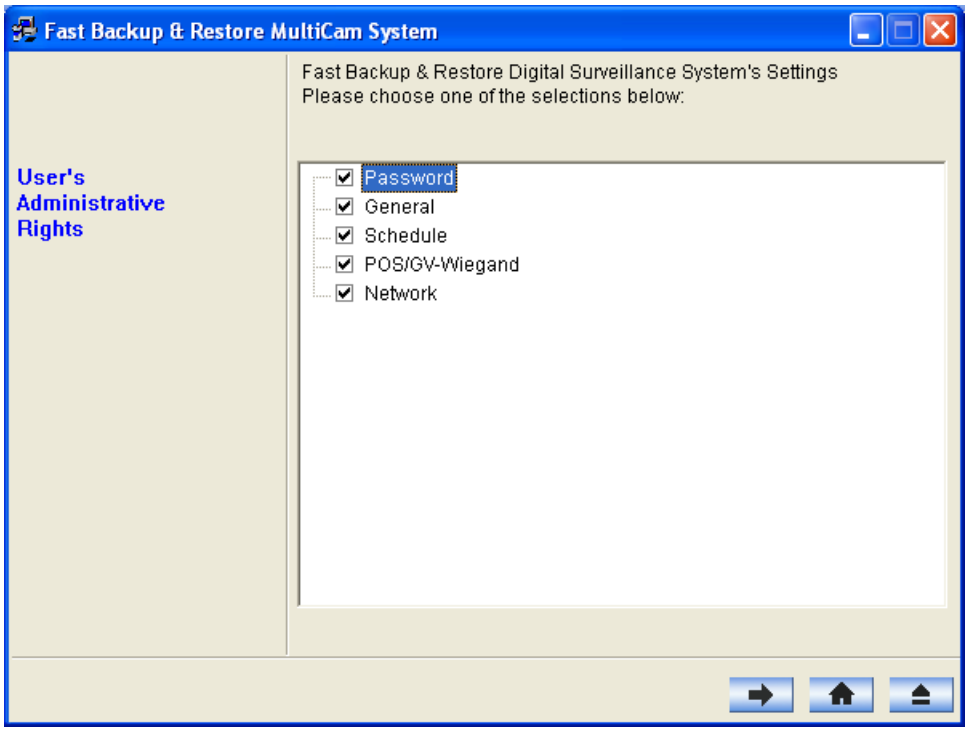

Figure 6-2

3. Press the **Next Step** button to back up all your system settings. The Save As dialog box appears.
4. Select the destination drive to store the backup file. When the backup is complete, this message "*Successfully Backup MultiCam System Settings*" will appear.

6.2 System Log

Please provide the **sys*.mdb** files of system log. The files by default are saved at **D:\Log\database**. If you have modified the default location, you can check the path on the following System Log Setting dialog box.

To open this dialog box, click the **Configure** button on the Main System, point to **System Configure**, and then select **System Log Setting**.

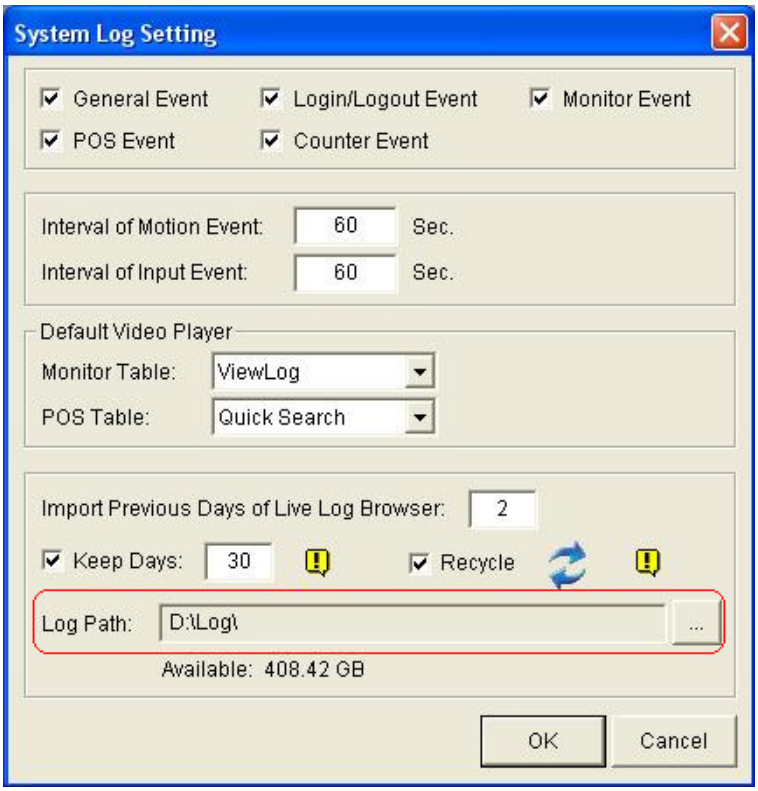

Figure 6-3

6.3 Information of Your Computer System

To get the information of your computer system, please follow the steps below to install the free software PC WIZARD. By using the software, the following computer information can be easily collected and saved for analysis:

- **Processor:** includes Type, Frequency, Data Cache L1, Trace Cache L1, Cache L2, Voltage, Processor Temperature, FPU Coprocessor.
- **Drives:** includes Number of Hard Disk, Number of Drive, Total Size and Free Space of Drive.
- **Voltage, Temperature and Fans:** includes Monitoring Chip, Voltage CPU, Chassis Fan, Processor Temperature, Mainboard Temperature, Hard Disk Temperature.

1. Download and install **PC WIZARD** from http://www.cpuid.com/pcwizard.php .
2. After installation, run the program.
3. Right-click the **Processor** icon and click **Save as**.

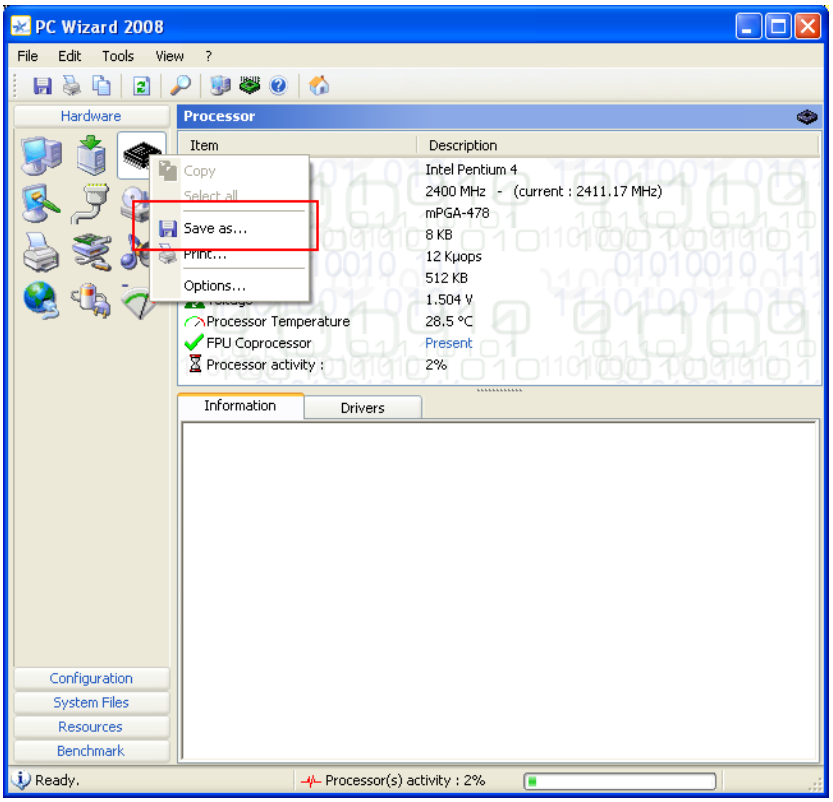

Figure 6-4

4. In the Save As dialog box, select **Format HTML** and click **OK**.

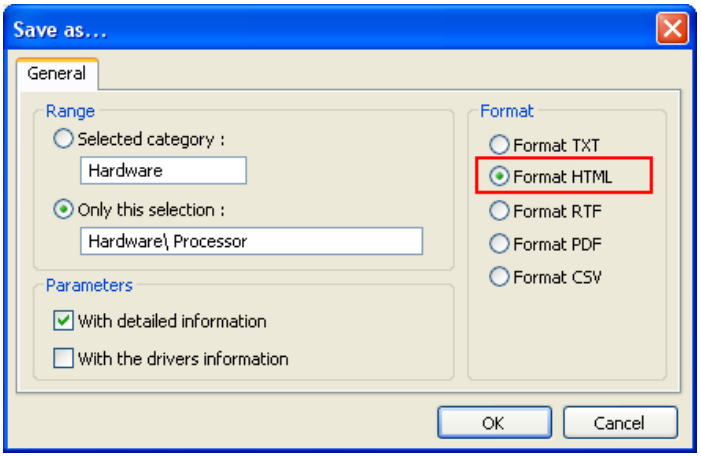

Figure 6-5

5. Select the Save location, type the file name, and then click **Save** to save the Processor information as HTML file.
6. Repeat Steps 3-5 to save the **Drives** information as HTML file.
7. To save the **Voltage, Temperature and Fans** information , please follow these steps:
   A. Click the **Voltage, Temperature and Fans** icon. The related data is displayed at the right window.
   B. Click the first item **Monitoring Chip**.
   C. Click **Edit** on the menu bar and click **Select All** to highlight all the contents.
   D. Click **Edit** on the menu bar and select **Copy**.
   E. Open a Notepad. Paste and save the information to TXT file.

6.4 Health Analysis Form

Please send the related data for analysis along with this Health Analysis Form to dvrsystem@geovision.com.tw.

Health Analysis of GV-NVR System Lite	
Contact Person:	**Title:**
Company Name:	
Telephone: (O)	**(H)**
Fax:	
E-Mail:	
Model:	
Bar Code:	

6.5 Check List

Read this check list before submitting the health analysis request:

- System Settings- **EXE file**
- System Log- **sys*.mdb**
- Computer System- Processor information of **HTML file**
- Computer System- Drives information of **HTML file**
- Computer System- Voltage, Temperature and Fans information of **TXT file**
- Health Analysis Form

Chapter 7 Troubleshooting

GV-NVR System Lite is designed for durability. However, should problems occur, following the procedures here can help determine the cause.

GV-NVR System Lite won't turn on.

If your GV-NVR System Lite won't turn on or you don't hear a startup sound or any fan or drive noise, try these steps:

1. Make sure that you press the **Power** button. The power LED will turn blue when the GV-NVR System Lite is turned on.

Figure 7-1

2. Make sure that the power cord is properly connected to both GV-NVR System Lite and power outlet. If you are using a power strip, make sure that the strip is powered on.
3. If the problem persists, consult your dealer.

GV-NVR System Lite stops responding (aka "crashed" or froze").

If your GV-NVR System Lite is not responding to your clicking, typing, or mouse movements, try to press the **Power** button on the GV-NVR System Lite to turn it off. Wait 30 seconds and then press the **Power** button again to turn it on.

GV-NVR System Lite's hard disk corrupts

If you are experiencing file system corruption problems, such as lost clusters, cross-linked files or invalid files or directories, try these steps:

9. Use the **HD Tune** utility to scan the external hard disk for errors. Follow these steps:
   A. Download and install **HD Tune** from http://www.hdtune.com/
   B. Click the **Error Scan** tab and click **Start** to scan. Any found defects will be shown as red blocks (Figure 7-3).

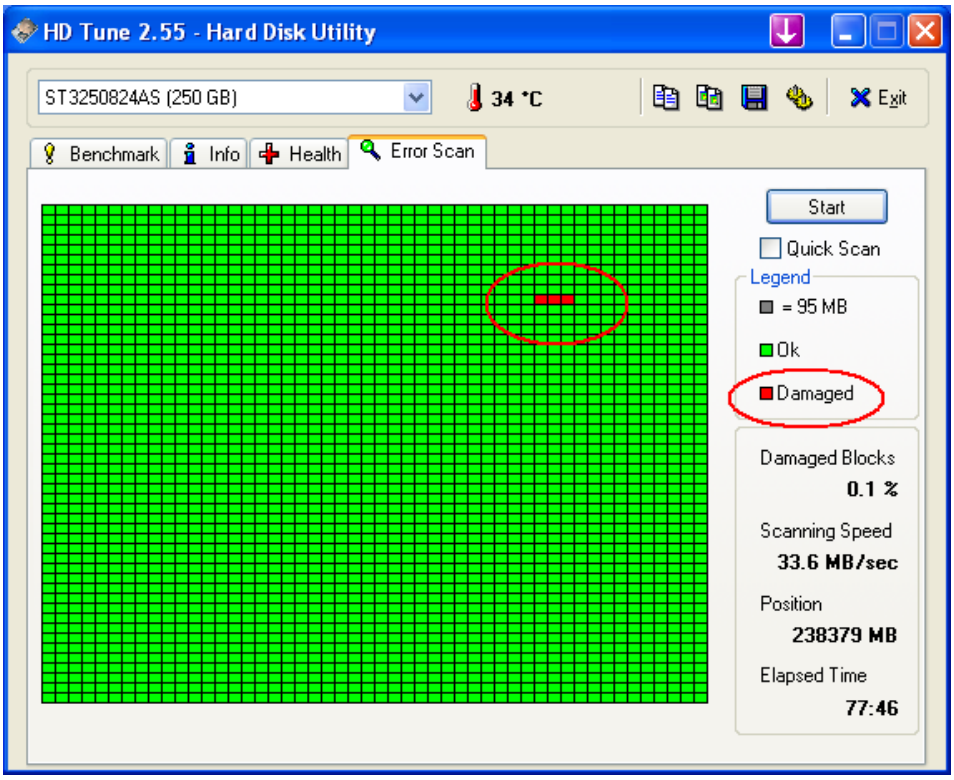

Figure 7-2

   C. If your hard disk drive is damaged, replace a new one.

10. If the HD Tune utility does not find any defects, use the Windows built-in utility to attempt to fix the errors. Follow these steps:
    A. On the GV-Desktop, click the **Programs** button, and select **Disk Management** (Figure 3-25).

B. Right-click the desired hard disk and select **Properties** from the file menu to display the Properties window.

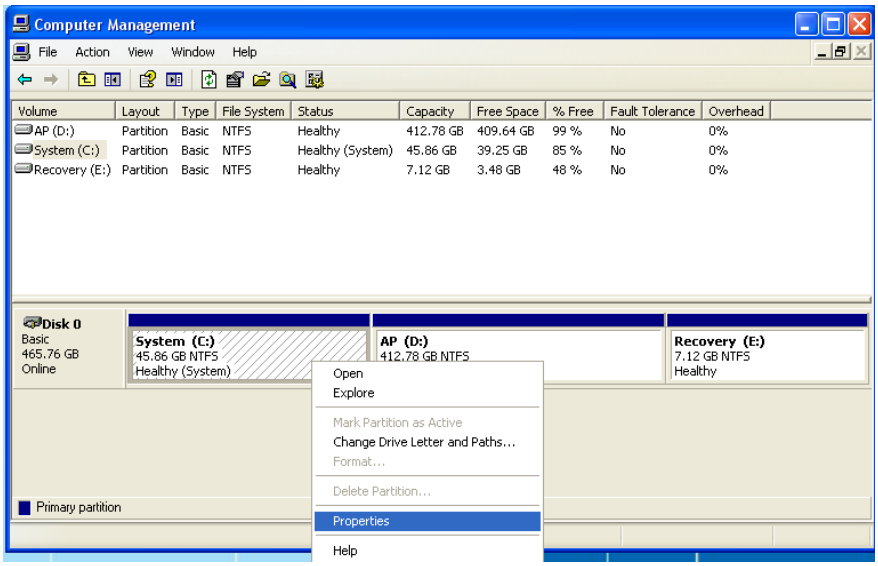

Figure 7-3

C. Click the **Tools** tab in the upper portion of the window.

D. Under Error-checking, click the **Check Now** button.

Figure 7-4

E. Select **Automatically fix file system errors** and **Scan for and attempt recovery of bad sectors**.

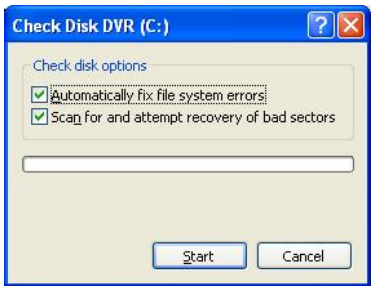

Figure 7-5

F. Click **Start**.

11. If the Windows hard disk utility still cannot fix the problem in Partition C, try rebuilding the operating system and GV-System Software. Refer to *3.10 Restoring System.*

12. If the problem persists, replace an external hard drive.

GV-NVR System Lite suffers virus attack.

GV-NVR System Lite is designed and optimized for Windows XP platform. It may be vulnerable to newly created worms and exploits that attack any of the underlying operating system's previously undocumented flaws. If your GV-NVR System Lite suffers virus attack, try rebuilding the operating system and GV-System Software. Refer to *3.10 Restoring System.*

Live video is not displayed smoothly.

If some of live videos are not displayed smoothly, check the following status:

13. Check the bandwidth status of the network that is connected to the GV-NVR System Lite.
14. Check if several users are accessing the Web interface of the GV IP camera. Try to close some of open Web interfaces.

Unable to locate all the GV IP cameras by using the IP Device Utility.

If you can not locate all the GV IP cameras by using the IP Device Utility, try the following instructions:

15. Ensure all the GV IP cameras are connected to the same LAN with the GV-NVR System Lite and check the network connectivity.
16. Ensure you have powered on all the GV IP cameras.
17. Click the **Search** button of the IP Device Utility again to detect the GV IP cameras.

Black images are displayed

If there is no image displayed after the GV IP cameras are connected to GV-NVR System Lite, check if these GV IP cameras are compatible. For compatible GV IP cameras, see *Bundled Software and Supported Cameras.*

How can I find more help?

18. Visit our website at http://www.geovision.com.tw/english/4_1.asp
19. Write us at dvrsystem@geovision.com.tw

Specifications

System

CPU	Intel Processor
RAM	2 GB
Storage	500 GB
OS	Microsoft Windows XP Embedded
DirectX	9.0c
Power	Output: 40W, 19V, 2.1A; Input: 100~240V, 50~60Hz

System Monitoring and Recovery

Power Restoration	Power restored after AC power loss
Monitoring	Software Watchdog
Recovery	Automatic system rebuild from internal hard disk.

Connector

Ethernet	RJ-45, 10 / 100 / 1000 Mbps	
DVI Output	DVI-D Output	
USB 2.0	**Right Side**	2 ports
	Left Side	4 ports

Sensor and Alarm

Sensor and Alarm	GV-IO Box 16 ports (Optional)	16 inputs, 16 outputs
	GV-IO Box 8 ports (Optional)	8 inputs, 8 outputs
	GV-IO Box 4 ports (Optional)	4 inputs, 4 outputs
Motion Detection	8 channels	

Audio

Audio Input	8 channels
Compression	AAC (16 kHz / 16 bit)

Video

Video Input	4 / 6/ 8 channels
Compression	MJPEG / MEPG4 (ASP) / H.264
Live Resolution	CIF for 8 screen divisions
Recording Mode	Round the Clock / Motion Detection / Sensor Detection / Pre & Post Recording / Schedule Recording
Instant Playback	10 sec. / 30 sec. / 1 min. / 5 min.
Water Marking	Support

Searching and Playback

Search Method	Date / Time
Date / Time / Event Search	Selectable on the tree list and calendar
Log Search	Through the log data to find the video event / time
Backup Type	DVD+R (DL) / DVD-R (DL) / DVD+R / DVD+RW / DVD-R / DVD-RW / CD-R / CD-RW
Note: For backup function, you need to connect an external USB DVD/CD burner.	

Remote Client Software

Monitoring Environment	WebCam / Twin Server / CenterV2 / VSM / Control Center / Remote Playback Server / Remote View / IP Multicast / GView / MSView / SSView / Remote View / 3GPP / AView / iView / iView HD
WebCam Live View	Max. 8 channels transmission
Remote Search	WebCam's Remote Playback / Remote Playback Server

Networking

Type	TCP/ IP, LAN, WAN, Internet, ISDN

Environment

Operating Temperature	0°C ~ 35 °C / 32 °F ~ 95 °F
Humidity	0% ~ 80% RH (non-condensing)

Physical

Color	Champagne gold
Dimensions (W x H x D)	153.5 x 20 x 172.5 mm / 6.04 x 0.79 x 6.79 in
Weight	650 g / 1.44 lbs

Language

Type	Arabic / Bulgarian / Czech / Danish / Dutch / English / Finland / French / German / Greek / Hebrew / Hungarian / Italian / Japanese / Lithuanian / Norwegian / Polish / Portuguese / Romanian / Russian / Simplified Chinese / Slovakian / Slovenian / Spanish / Sweden / Thai / Traditional Chinese / Turkish

Product design and specifications are subject to change without notice.

Warranty Policy

GeoVision, Inc. (“GeoVision”) hereby provides three types of Limited Warranty as below:

■ **One (1) Year - Limited Warranty**

Including:

GV-Pad / GV-PadT series

■ **Two (2) Year - Limited Warranty**

Including:

1. **All hardware products (except all GV-series capture cards) and;**
2. **Pan Tilt Camera GV-PT110D within max 500,000 times of pan or tilt movement and;**
3. **PTZ Camera GV-PTZ010D within max 500,000 times of pan or tilt movement and lens zoom in/out.**

■ **Three (3) Year - Limited Warranty**

Including:

All GV-series capture cards

■ **No Warranty Coverage**

The cover of GV-series IP cameras is a consumable item and thus not included under these Limited Warranties.

All aforementioned products, **EXCLUDE OTHER PACKAGED ACCESSORIES AND ALL SOFTWARE**, (hereinafter called “Products”) will be free from defects in materials/workmanship during the terms of these Limited Warranties (“Limited Warranties”) from the date of purchase. These Limited Warranties parts and labor warranty are applicable to Products purchased via authorized distribution and sales channels.

If a defect arises and a valid claim is received by GeoVision within Limited Warranties Period, at its option, GeoVision will (1) repair Products at no charge, using new or refurbished replacement parts, or (2) exchange Products with a Product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original Products.

GeoVision warrants replacement parts or repairs for thirty (30) days from the date of GeoVision shipment or for the remainder of Limited Warranties Period, whichever provides longer coverage for you. When a Product or part is exchanged, any replacement item becomes your property and the replaced item becomes GeoVision’s property.

It is customer's sole responsibility and requirement to prove these Products are under warranty (by submit your sales invoice and bar code), otherwise GeoVision will determine these Products' warranties period at its option. GeoVision reserves the right, at its sole discretion and any time, to modify and adjust the scope and content of Products and its warranty without prior notice, however, any modification and adjustment thereafter will not affect or interrupt any rights belonging to Products you purchased already.

Limitations of Warranties

Limited Warranties apply only to Products manufactured by or for GeoVision that can be identified by the "GeoVision" trademark, trade name, or logo affixed to them. Limited Warranties do not apply to any non-GeoVision products including counterfeited products. GeoVision is not liable for any damage to or loss of any profit, programs, data, or other information stored on any media, or any non-GeoVision Products or part not covered by these warranties. Recovery and reinstallation of system and application software and user data are not covered under Limited Warranties. Limited Warranties do not apply if:

a) Products have been subjected to abnormal use, improper storage, unauthorized modifications, unauthorized repair, misuse, neglect, abuse, accident, alternation, removal of any stickers or labels on the hardware, improper hardware/software installations, or other acts that are not the faults of GeoVision, including damage caused by shipping;

b) Products have been damaged from exposure under circumstances which is over weatherproof specification of the product, an Act of God, or improper use of any electrical source, or the connection to other products not recommended for interconnection by GeoVision;

c) Products have defects or damage caused due to computer virus attack, internet or technical issues;

d) Products serial number have been removed, defaced or altered;

e) Products have been sold by an unauthorized distributor or retailer; or

f) The system case, including GV-Hot Swap DVR System, GV-Storage System and GV-NVR System Lite, has been opened.

Disclaimer of Warranties

Except as specified in these Warranties, all express or implied conditions, representations, and warranties including, without limitation, any implied warranties or condition of merchantability, fitness for a particular purpose, non-infringement, satisfactory quality, non-interference, accuracy of informational content, or arising from a course of dealing, law, or trade practice, are hereby excluded to the extent allowed by applicable law and are expressly disclaimed by GeoVision. To the extent implied warranties cannot be excluded,

such warranties are limited in duration to the express warranties period. Because some states or jurisdictions do not allow limitations on how long implied warranties lasts, the above limitation may not apply. These warranties give customers specific legal rights, and customer may also have other rights which vary from jurisdiction to jurisdiction. This disclaimer and exclusion shall apply even if the express warranties set forth above fails of its essential purpose.

Limitation of Liability

Regardless whether any remedy set forth herein fails of its essential purpose or otherwise, in no event will GeoVision or its suppliers be liable for any lost revenue, profit or lost or damaged data, business interruption, loss of capital, or for special, indirect, consequential, incidental, or punitive damages however caused and regardless of the theory of liability or whether arising out of the use or inability to use the GeoVision Products or otherwise and even if GeoVision has been advised of the possibility of such damages. In no event shall GeoVision's liability to customer, whether in contract, tort (including negligence), breach of warranty, or otherwise, exceed the price paid by customer for the Software that gave rise to the claim or if the Software is part of another Products, the price paid for such other Products. Because some states or jurisdictions do not allow limitation or exclusion of consequential or incidental damages, the above limitation may not apply to you. In no event shall GeoVision's total liability to you for all damages (other than as may be required by applicable law in cases involving personal injury) exceed the amount of two hundred dollars (U.S. $200.00). The foregoing limitations will apply even if the above stated remedy fails of its essential purpose.

Customer agrees that the limitations of liability and disclaimers set forth herein will apply regardless of whether customer has accepted any other Products or service delivered by GeoVision. Customer acknowledges and agrees that GeoVision has set its prices in reliance upon the disclaimers of warranties and the limitations of liability set forth herein, that the same reflect an allocation of risk between the parties, and that the same form an essential basis of the bargain between the parties.

These Warranties shall be governed by and construed in accordance with the laws of Taiwan, Republic of China and United State, without reference to or application of choice of law rules or principles. The United Nations Convention on the International Sale of Goods shall not apply. If any portion hereof is found to be void or unenforceable, the remaining provisions shall remain in full force and effect.

GeoVision Inc. Warranty Policy last updated on December 26, 2011.

Warranty Requirements

To validate your purchase, you shall complete the online Product Registration **within 30 days from the date of purchase** at http://www.geovision.com.tw/english/4_6.asp. Or click **GeoVision Online Registration** in My Favorite for a direct link.

If you fail to complete the Product Registration, the warranty period will start **from the date of shipment.**

Before you return the product

Some problems you experience may be related to software or the operating system. It is important to investigate other sources of assistance first. Before returning the product, try the following:

1. Review troubleshooting sections in the documentation for software and peripheral devices.
2. Try rebuilding the operating system and GV-System from the hidden partition.
3. Consult your dealer. They are your best sources for current information and support. Or you can call or email GeoVision offshore offices for assistance.

   When you call or e-mail, please inform us the following:

   - Model name
   - Bar Code
   - Details of the defect or problem
   - Attempted solutions
   - Your contact information
   - Reseller's contact information

4. If you find it is the software problem, please check our website or your dealer for software updates.

Obtaining Warranty Service

If you are still unable to solve the problem and suspect that it is hardware related, follow these:

1. Send an e-mail to GeoVision to start Return Merchandise Authorization (RMA) process.

   E-Mail: sales@geovision.com.tw or dvrsystem@geovision.com.tw
2. Securely pack the product in its original carton using the original packing material, or in equivalent packaging.
3. The product shall be returned to **GeoVision, Taiwan** at your expense for shipping and insurance costs.

BEFORE YOU DELIVER YOUR GV-NVR SYSTEM LITE FOR WARRANTY SERVICE, IT IS YOUR RESPONSIBILITY TO BACK UP YOUR DATA. YOU WILL BE RESPONSIBLE FOR REINSTALLING ALL DATA, SETTINGS AND PASSWORDS. DATA RECOVERY IS NOT INCLUDED IN THE WARRANTY SERVICE AND GEOVISION IS NOT RESPONSIBLE FOR DATA THAT MAY BE LOST OR DAMAGED DURING TRANSIT OR A REPAIR.

Warranty Form

User's Manual for GV-NVR System Lite

Thank you for purchasing the GV-NVR System Lite. To help us validate your purchase and better serve you in the future, please go to http://www.geovision.com.tw/english/4_6.asp or click **GeoVision Online Registration** in My Favorite for a direct link to register online **within 30 days from the date of purchase**. Please keep this copy for your records.

Name: First (given)	**Surname (family name)**
Company Name (only if the product is owned by company):	
Mailing Address:	
City/Town:	**Province/State:**
Country:	**Postal Code:**
Telephone: (O)	**(H)**
Fax:	
E-Mail:	
Date of Purchase: (e.g. 16-APR-2008)	
Bar Code:	
Shipment Date:	

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